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UME 89 NUMBER 2

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Operations on the Middle Ear and Mastoid

Changing Aspects of Treatment in Chronic Active Disease

O. ERIK HALLBERG, *M.D.*, Rochester, Minnesota

• From 1953 to 1957, inclusive, 373 patients were operated on for chronic mastoid disease at the Mayo Clinic. Mainly because of the extensive use of magnifying glasses and microscopes, through these years, closer attention has been given to the preservation or improvement of hearing by meticulous procedures on the structures of the middle ear and the use of skin grafts. It is stressed, however, that it is extremely important to eradicate the underlying disease. Illustrative cases to represent different types of procedures are presented. The author recommends closer attention to the condition of the round window in the future.

IN THE OPERATIVE TREATMENT of suppurative diseases of the middle ear and mastoid the emphasis on the functional result to the hearing has increased greatly. Before the introduction of the sulfonamides and the antibiotics, more than half of the patients with chronic suppurative infections of the ear who were seen in the operating room had widespread destruction of the tympanic membrane with pronounced disease or scarring of the mucosa of the middle ear and cholesteatoma involving the attic, antrum and mastoid. Little or no attention was paid to preservation of hearing, and radical mastoidectomy was the operation of choice. Lately, however, this condition is rarely seen, and the majority of patients have superior or posterior perforations leading into the attic or mastoid antrum or both. For the past 20 years my colleagues and I have preferred to use the Bondy modification of radical mastoidectomy combined with the Lempert flap as used in the fenestration operation. In this manner, the hearing is usually preserved and often is improved.

From 1953 through 1957 a total of 373 patients were operated on for chronic mastoid disease at the Mayo Clinic. The various types of procedures used and some of the results will be mentioned in a general discussion of the surgical approach and surgical technique and procedures.

Straight middle ear procedures for large or small perforations without active middle ear disease will not be considered in this presentation.

SURGICAL APPROACH

Postauricular incisions were used entirely for operations on the middle ear and mastoid until about 1940, but since the advent of the fenestration operation Lempert's endaural incision has been replacing the postauricular incision. As a rule, both the postauricular and the endauricular incisions render the operative field equally accessible and can be compared with the use of either McBurney's or

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the lateral rectus incision for appendectomy; each approach gets the appendix out. The endaural incision, however, allows easier removal of packs and facilitates cleaning and ventilation. This incision also makes the middle ear more accessible.

Of 72 patients operated on for chronic mastoid disease in 1953 at the clinic, 35 had postauricular incisions. Since then, the endaural incision has been favored; in 1957, postauricular incisions were employed in only seven of 85 patients. My colleagues and I, however, still regard the postauricular incision as the approach of choice in acute mastoiditis, destructive labyrinthotomy for Ménière's disease and operations on the facial nerves such as neurolysis or nerve grafts.

THE CHOLESTEATOMA PROBLEM

In our earlier cases, we, like most otologists, were influenced by the opinion of Nager that the matrix of the cholesteatoma would form an excellent epithelial lining for the radical cavity, and an effort was made to preserve it. However, in some cases the cholesteatoma rapidly formed again and frequent removal was necessary; occasionally, it would cause erosion of the horizontal semicircular canal which resulted in episodes of dizziness. During the last ten years, it has been our practice, therefore, to remove all vestiges of cholesteatoma. When the Lempert type of flap is used, there seems to be no definite advantage in preserving the matrix, and indeed when Lempert flaps and skin grafts are both used, it is extremely important to remove all vestiges of cholesteatoma. Magnification is a must during this procedure. As has been stressed by Juers, it is surprising how many fingerlike projections of cholesteatoma can be found around the semicircular canals.

Cholesteatomas were found in 65 per cent of the patients operated on for mastoid disease at the clinic from 1953 to 1957; the size varied from large to small, but the cholesteatoma practically always filled the attic and often extended beyond into the mastoid antrum and mastoid proper.

SURGICAL TECHNIQUE AND PROCEDURES

Before 1940, mastoid operations at the clinic were always done with hammer, chisel and curet. Since the advent of the electric bur, this instrument has almost entirely taken over. The new fast burs are safe and easy to manipulate. Magnifying glass or microscope, or both, are always used in operations on the middle ear. In more than half of our cases, the incus and head and neck of the malleus were involved in the cholesteatomatous process and had to be removed. Very often, the cholesteatoma extended only to the level of the facial nerve and did not involve the stapes itself. As a rule, the removal of the incus and head and neck of the malleus does not result in further deterioration of the hearing, presumably because the ossicular chain had already been interrupted before the operation and had not been transmitting sound. Davison stated that 54 per cent of his patients from whom the incus and head of the malleus were removed had hearing at or above the 30-decibel level. The good hearing in these cases could be due to the presence of a mobile membrane providing sound pressure transformation for the oval window and sound protection for the round window, also described by Wullstein.

It is not necessary to remove granulation tissue completely from the middle ear, since it has a tendency to shrink when the cause is removed. This was recently stressed by a Russian otologist, Rastopchin.

In our series even though the incus, and head and neck of the malleus were often imbedded in the cholesteatoma, if the ossicular chain seemed intact and no pathologic change was present in the ossicles themselves, they were left intact. In the last three years, an attempt also was made in such cases to save the bridge, as originally described by Heath. The flap was draped over the bridge to cover the ossicles. The small perforations were squeezed together and allowed to heal. If perforations were large, they were covered with skin grafts taken from the forearm or from behind the auricle.

In about a third of our patients, the incus was either not identifiable or was extensively diseased. Since the ossicular chain then was broken, the procedure of choice was to remove the head and neck of the malleus also and bring the posterosuperior end of the malleus in contact with the capitulum of the stapes. This procedure would keep hearing at the preoperative level at least, and often would improve it by 15 to 20 decibels.

Tympanoplasty. If most of the drumhead and malleus also were badly diseased or destroyed, the mucous membranes over the upper part of the promontory were either removed or, if possible, turned over. A free skin graft taken from behind the ear, forearm or the abdominal wall was then applied, in an attempt to maintain communication of the Eustachian tube with the round window. The graft was then firmly pressed up against the capitulum of the stapes. This method was first developed by Miodonski in Poland in 1951, and its usefulness was further reported on in 1957 by Sekula. During 1956 and 1957, tympanoplasty of this type was done in 37 patients at the clinic, and generally speaking the results have been satisfactory in improvement of hearing as well as keeping the ear dry. About 40 per cent had improvement of hearing of from 10 to

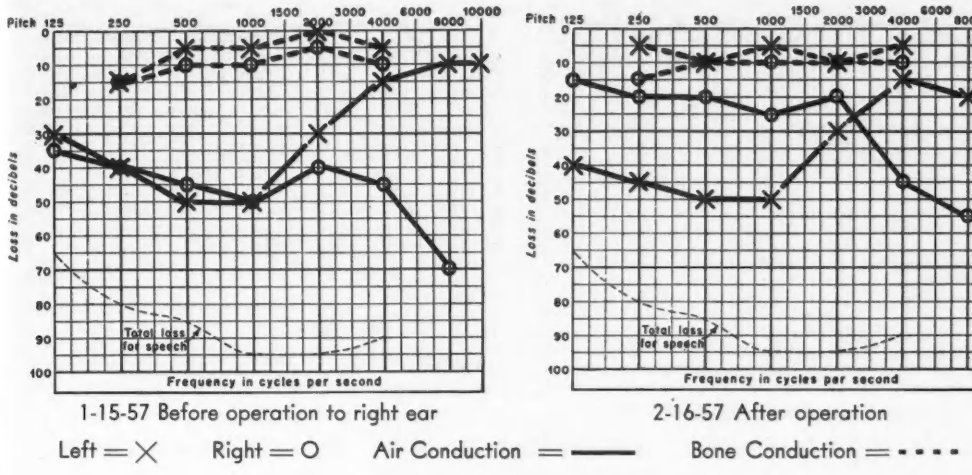
Pitch 125 250 500 1000 1500 2000 3000 4000 6000 8000 10000
Loss in decibels
Total loss for speech
Frequency in cycles per second
1-15-57 Before operation to right ear
2-16-57 After operation
Left = X Right = O Air Conduction = —— Bone Conduction = - - - -

Chart 1.—Audiograms in Case 1

30 decibels; in the others, the hearing was essentially unchanged except for two patients whose hearing deteriorated further. The following case is a typical example:

CASE 1. A 26-year-old man was first observed in the ear, nose and throat section of the Mayo Clinic in 1953. He gave a history of having had a foul-smelling discharge from the left ear intermittently for several years and of an occasional earache which was relieved when the ear started to drain. He was found to have an attic defect on the left, and roentgenograms showed pronounced sclerosis of both mastoid processes. The right drumhead was scarred and thickened, but no perforation was seen. A modified radical mastoidectomy was done on the left, using the endaural approach. A large cholesteatoma which had destroyed the incus and head of the malleus was found. A Lempert flap was used. Unfortunately, an audiogram was not made; however, fork tests revealed decided deafness of conduction type on the left.

The patient returned in January, 1957, because of foul-smelling drainage from the right ear of a year's duration. He was gradually becoming more and more deaf. Upon examination it was found that most of the right drumhead was gone, and cholesteatoma had extended down from the attic. An audiogram showed pronounced bilateral deafness of conduction type. The cavity resulting from the modified radical mastoidectomy on the left was dry and completely epithelialized. Right endaural mastoidectomy with tympanoplasty, using a skin graft 25 microns thick from the abdomen, was carried out. The mucous membrane over the upper half of the promontory was stripped off, turned over, replaced and covered with the graft in an attempt to maintain communication between the Eustachian tube and the round window. Before this was done, a small cholesteatoma occupying the mastoid antrum and attic was removed. The incus and malleus were not identifiable. The skin graft was pressed firmly over the capitulum of the stapes. The result was most gratifying (Chart 1).

If most of the drumhead is intact and the attic defect is small, a skin graft to the middle ear is, of course, not necessary. Unless the bridge can be saved, I do not consider that it is of particular importance to save the incus and head and neck of the malleus, since mobility is impaired. Hall and Rytzner in Sweden have tried total or partial stapedectomy with autotransplantation of ossicles. The theoretical background for such a procedure is the well-known fact that birds require only one ossicle in the transmission mechanism of the middle ear—the columella—for adequate hearing.

Tympanoplasty With Intact Ossicles. Best results, of course, as far as maintaining or improving hearing to normal or near normal levels is concerned, are seen in patients when the ossicular chain is intact, not scarred down, and when the flap can be draped over the bridge, thus not impeding the mobility of the ossicles. Cases 2 and 3 are typical examples.

CASE 2. The patient, a 16-year-old youth, had foul-smelling drainage from the left ear for years. Upon examination much foul-smelling granulation tissue was observed in the canal. In roentgenograms of the mastoids sclerosis on the left was noted. Modified left endaural mastoidectomy was done for chronic mastoiditis with much granulation tissue. The ossicles looked good. Some granulation tissue was left in the middle ear. The bridge was left intact and a Lempert flap was draped over it. Audiograms showed that the patient had normal hearing on admission and that he continued to have essentially normal hearing six months later (Chart 2).

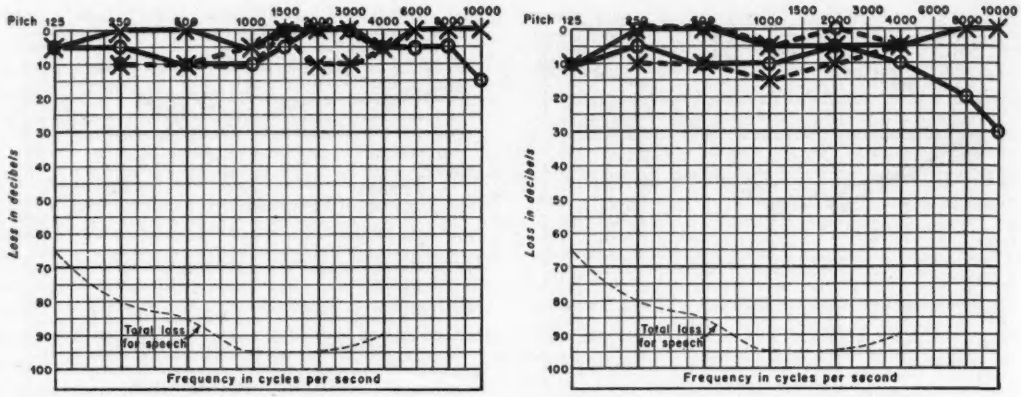
Pitch 125 250 500 1000 1500 2000 3000 4000 6000 8000 10000
Loss in decibels
Total loss for speech
Frequency in cycles per second
1-4-54 Operation done 6-28-54
6-14-55
Left = X Right = O Air Conduction = —— Bone Conduction = - - - -

Chart 2.—Audiograms in Case 2

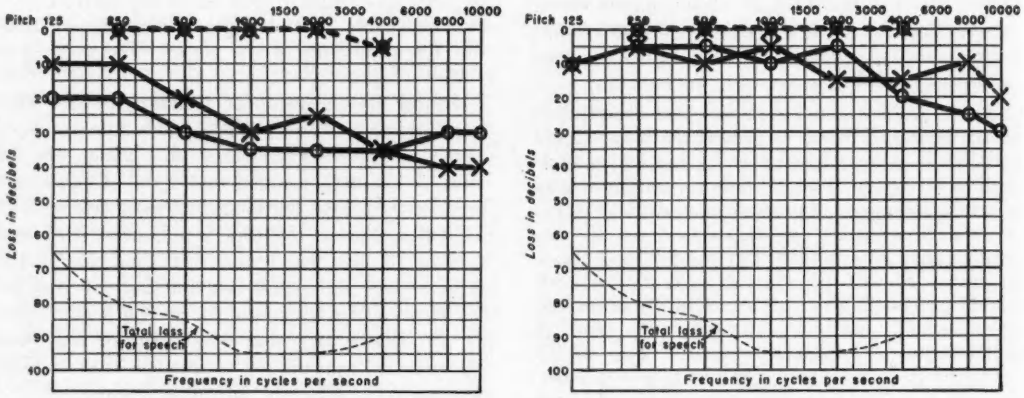
Pitch 125 250 500 1000 1500 2000 3000 4000 6000 8000 10000
Loss in decibels
Total loss for speech
Frequency in cycles per second
4-1-56 Preoperative
Speech Reception Threshold Rt.—30 Lt.—30
5-12-56 Postoperative
Most Comfortable Loudness Rt.—55 Lt.—55
Answers fairly consistent.
Left = X Right = O Air Conduction = —— Bone Conduction = - - - -

Chart 3.—Audiograms in Case 3

CASE 3. The patient, a boy six years of age, had a large cholesteatoma in the right mastoid. The ossicles and bridge were saved and a Lempert flap was draped over it. At the same time, myringotomy was done on the left with evacuation of fluid. Because of recurrent adenoids, adenoidectomy under direct vision was done also in an effort to prevent recurrence of the ear infection. The preoperative and postoperative audiograms are shown in Chart 3.

Procedures for Intact Membrana Tensa With Diseased Ossicles. If the membrana tensa is intact but the incus and head of the malleus have to be removed, the long handle of the malleus is partially dissected free and laid up against the capitulum of the stapes. If the long handle of the malleus also has to be removed or is not identified, the drumhead then is draped carefully over the capitulum of the stapes in an effort to obtain the so-called columella effect. Of 85 patients with chronic mastoid disease operated on at the clinic in 1957, 25 were handled this way. Twenty of these patients had preoperative and postoperative audiograms. After operation, hearing had improved 10 decibels or more in nine patients, was essentially unchanged in eight and had deteriorated further in three. Case 4 is a typical example.

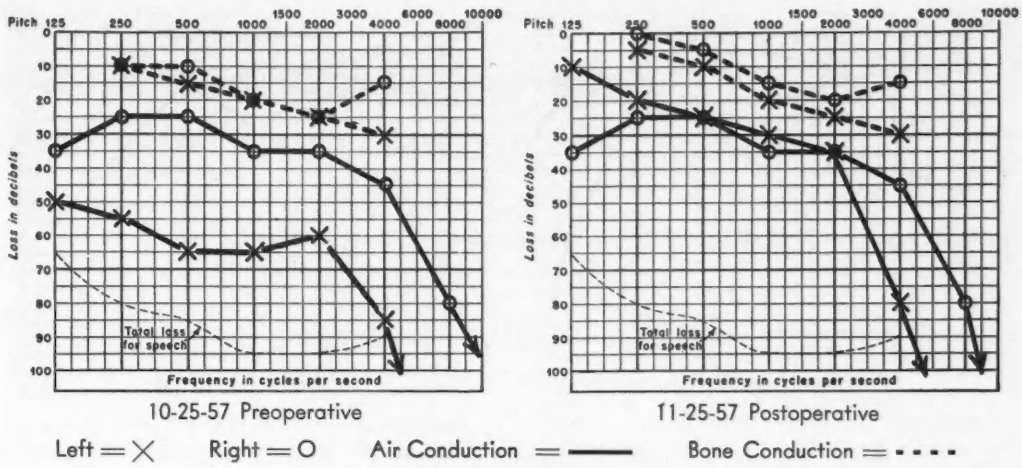
Pitch 125 250 500 1000 1500 2000 3000 4000 6000 8000
Loss in decibels
Total loss for speech
Frequency in cycles per second
10-25-57 Preoperative
11-25-57 Postoperative
Left = X Right = O Air Conduction = —— Bone Conduction = - - - -

Chart 4.—Audiograms in Case 4

CASE 4. A 38-year-old man was first seen in October, 1957. His main complaint was of intermittently draining ears since childhood. The right ear had stopped draining several years before admission, but in the left ear the foul-smelling discharge persisted. Deafness had progressed considerably during the three or four months preceding admission. Upon examination a dry central perforation was observed on the right drumhead and there was a small attic defect from which cholesteatoma was brought down on the left. Roentgenograms showed sclerosis of both mastoids. An audiogram (Chart 4) showed deafness of conduction type which was moderate on the right and much more pronounced on the left. Left endaural tympanomastoidectomy was done. A large cholesteatoma was found in the mastoid antrum and attic. The incus was extensively diseased and had to be removed, as were the head and neck of the malleus. The long handle of the malleus was then partially dissected out, and the posterosuperior end was firmly pressed up against the capitulum of the stapes. The small perforation in the attic was eliminated by pushing the edges together and laying them down as in the Lempert flap employed in the fenestration operation. A postoperative audiogram showed that the moderate deafness of conduction type on the right was unchanged but the pronounced conduction type of deafness on the left was improved to the level of that on the right. The hearing on the right was improved further by covering the perforation with a patch.

Older Procedures Compared with New Ones. Most otologists agree now that all of the cholesteatoma has to be removed; for this reason, mastoid operations are probably done in much the same manner all over the world. However, no set pattern can be made when it comes to operations on the middle ear. The procedure selected depends entirely on the findings at the time of operation.

In a recent communication Williams stressed that there has been a tendency to neglect the underlying disease and to direct all the attention to the hearing. For this reason it is feared that some of the hard-learned lessons of the past may be forgotten in the enthusiasm for restorative procedures. Chronic mastoid diseases are still with us, and patients are still seen who have severe complications such as brain abscesses and other extensions of the disease. For this reason, otologists must not forget that elimination of disease is their first consideration and improvement of hearing second. I cannot but feel from many recent reports that operation of the middle ear has been turned into surgical gymnastics. It must not be forgotten that many patients are much more concerned with the foul odor of the discharge than the hearing, especially if the hearing is normal in the other ear.

The physiologic principles underlying the transmission of sound have been explained by Wever and Lawrence. However, applying these principles to the diseased and deformed middle ear is a different matter, and the ultimate outcome of hearing after operation is often unpredictable. Case 5 stresses this point.

CASE 5. The patient, a boy 14 years of age, was first examined in 1954. He was found to have an acute exacerbation of chronic otitis media on the right with profuse drainage and some mastoid tenderness. The mastoid was full of pus and cholesteatoma, and none of the structures of the middle ear, including the crura of the stapes, were identifiable. A straight radical mastoidectomy was done; no skin grafts were used. The patient also had erosion of the right horizontal semicircular canal; and, to top it all off, a cerebellar abscess developed which was operated on two months later. In spite of all this,

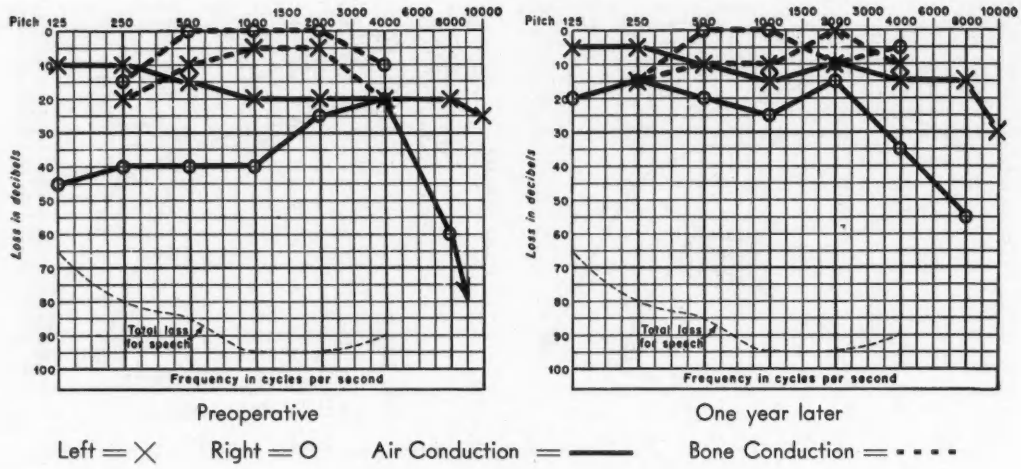

Chart 5.—Audiograms in Case 5

the audiograms (Chart 5) showed a definite improvement of hearing which was still in effect a year after operation.

EFFECT OF OPERATION ON HEARING

Generally speaking, if the loss of hearing was fairly moderate before operation, for example at the 20 to 40-decibel level, it either tended to remain that way or improved. However, if the hearing was down to 60 to 70 decibels, improvement of hearing was the exception rather than the rule in spite of good to fair hearing reserve. One of the reasons may be that too little attention has been paid to the condition of the round window, and I agree with Cawthorne that more attention should be paid to this region. In order to do this it is important first to severely lower the facial ridge.

THE HANDLING OF COMPLICATIONS

Dealing with the complications of mastoid disease has changed somewhat too. Of the 373 patients operated on at the clinic for mastoid disease from 1953 through 1957, 36 were found to have fistulas either over the "surgical dome" of the labyrinth or farther back on the horizontal semicircular canal; in only four of these was labyrinthectomy necessary. The more liberal use of antibiotics is, of course, responsible for this more conservative attitude. By not disturbing the defect, the hearing also was maintained.

SKIN GRAFTS

In an effort to promote quicker healing, my colleagues and I have used the skin graft more and more since 1950. At first, we started with the use of full-thickness skin grafts, but these would often slough off. Now the split-thickness skin graft is the rule except for small grafts used in tympanoplasty where the graft is often taken from the forearm with a thick center and thin edges. The grafts and the Lempert flap are held firmly in place by a couple of ¼-inch gauze packs, lightly covered with hydrocortisone ointment. These packs are kept in place for about ten days. The skin is taken from the postauricular region, abdomen or forearm. I prefer the forearm because it is easy to get at and because it is hairless. In women, the graft is taken most often from the abdominal wall.

Mayo Clinic, Rochester, Minnesota.

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Antibiotic Resistant Staphylococci

Familial Infections Caused by Exposure of Babies in Hospital Nurseries

VALERIE HURST, *Ph.D.*, and MOSES GROSSMAN, *M.D.*, San Francisco

• **An antibiotic resistant staphylococcus with bacteriophage pattern 52/42B/80/81* is frequently responsible for infectious outbreaks in the newborn nursery. Some time after an outbreak had occurred in the University of California's hospital nursery, family members of the infants were found to be infected with this strain. Two families were studied in detail. In one of them, infection developed in six of the seven members within eight months after the infant's arrival. In the other, half of the family members had recurrent infections during a 13-month period.**

Infants who left the nursery as asymptomatic carriers were found as likely to transmit the infectious strain as those with clinical infection. Considerable time sometimes elapsed before infection developed in either the infant or the family members. In one instance the first familial infection occurred six months after the infant had left the nursery as an asymptomatic carrier.

Newborn infants are quite likely to disseminate antibiotic resistant staphylococci which they may acquire from a hospital nursery. Infections developing among persons in contact with a young infant must be treated with the possibility of a resistant hospital staphylococcus in mind.

HOSPITALS HAVE BECOME breeding grounds of antibiotic resistant staphylococci as a result of the intensive use of antibiotics. Most staphylococci now isolated from hospital-acquired infections are resistant to penicillin and the tetracyclines, and many are resistant to other antibiotics as well. Although this has been primarily a hospital problem, cumulative evidence indicates that resistant staphylococci are no longer confined to hospitals and are increasing in the community at large. The incidence of penicillin-resistant strains in the nasal cultures of blood donors was observed to increase from 4 per cent in 1949 to 13 per cent in 1955;[9] 18 per cent of blood donors in 1954 were found to carry penicillin-resistant strains in their throats.[3]

Some antibiotic-resistant staphylococci now present in the general population may be products of indiscreet use of antibiotics in the treatment of patients at home or in physicians' offices, but our observations and those of other investigators suggest that many have been seeded in the community by patients who have been in hospital. In one hospital 88 per cent of the staphylococci isolated from the upper respiratory tract of adult patients who were being discharged were found to be penicillin-resistant.[2] In many hospitals over 90 per cent of newborn infants have been found to acquire penicillin-resistant staphylococci in their noses,[8] and they may retain such staphylococci for long periods. While adult patients seem to lose the hospital staphylococci within a few months,[2] some infants have been shown to retain them for at least a year.[4] A recent survey[5] suggested that neonatally acquired resistant staphylococci may be retained for even longer periods. Forty-five per cent of children now under five years of age were found to carry penicillin-resistant staphylococci in their noses and throats, in contrast to 18 per cent of children born before the extensive use of penicillin in hospitals.

From these various observations, it is apparent that newborn infants are an important source of the resistant staphylococci now found in the general population. This problem has recently become more serious because many hospital nurseries are now plagued by a highly infectious staphylococcus.[10] The phage pattern is variously reported as 80/81, 52/42B/80/81, or 42B/44A/47C/52/80/81* by different laboratories. This strain commonly causes neonatal impetigo and maternal mastitis, and sometimes is the organism of fatal infections such as septicemia and pneumonia. It is invariably resistant to penicillin and the tetracyclines and, although it is usually sensitive to erythromycin and chloramphenicol, variants that are resistant to these drugs have been encountered. Several paradoxical features of infectivity also characterize this strain. Although the incidence of newborn infection with it is high, infants may carry the strain for periods of from a few days to several months before the development of clinical infection. Some infants remain healthy

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Presented before the Section on Pediatrics at the 87th Annual Session of the California Medical Association, Los Angeles, April 27 to 30, 1958.

*The code numbers are used to identify different strains of coagulase-positive staphylococci.

Chart 1.—Record of Infection in Infant and in Seven Other Members of Family

Age of Infant at Time of Infection in Self or Family	Infant	Mother	Father	Siblings				
				4 Years	5 Years	7 Years	9 Years	10 Years
5 days	*Carrier* Impetigo*							
2 weeks		*Breast Abscess*						
3 months				Boil				
4 months						*Furuncle* Lymphangitis *Carrier*		
5 months								Boil
6 months		Boil						
8 months	Boil		Boil		Intermittent boils			
13 months	Negative	Another strain	Another strain	Another strain	Another strain	Negative	*Carrier*	Another strain

*Italics indicate cultures phage typed and demonstrated to be the nursery strain.

carriers indefinitely and clinical infection never develops. Either a healthy or an infected infant may transmit the strain to family members who likewise may have clinical infection after variable periods of time or may never have disease from the organism.

In January 1957 this resistant staphylococcus suddenly appeared in our hospital nursery. The outbreak of neonatal impetigo and maternal mastitis which resulted was similar in character to that experienced in many other hospitals within the past few years. Fortunately, our outbreak was of relatively short duration and subsided spontaneously in about two months without fatalities. Because of our intense interest in the problems presented by resistant staphylococci, our nursery was already under close bacteriological surveillance at the time this outbreak occurred, and we were in a position to study its genesis.[6]

STUDY OF SUBSEQUENT INFECTIONS

The infection or carrier state of each infant who left the nursery was investigated, and all staphylococci were phage typed. Subsequent infections among these infants or their families were noted, and cultures were obtained where possible for phage typing. The resulting observations demonstrated that infants born during the outbreak frequently transmitted the nursery staphylococcus to members of their families. The families of two infants who were most intensively followed serve well to illustrate this fact.

Chart 1 shows the record of infection in an infant and the parents and five siblings. The newborn infant had impetigo when it left the nursery on its fifth day, and also harbored the infectious strain on various unaffected portions of the skin and mucous membranes. In the second week postpartum the mother developed a breast abscess which yielded the same strain as that which had affected the infant. Within the first eight months of the infant's life, all family members had staphylococcal infections except the nine-year-old sibling. Only the seven-year-old child's infection received medical attention —a furuncle with lymphangitis from which the infectious strain was recovered. When the infant had reached its thirteenth month of age, nose and throat cultures were obtained from all members of the family. At this time, only the nine-year-old child who had never had an infection was found to carry the infectious strain. Interrogation of this family elicited that a two-year-old cousin who frequently played in their home also had had frequent boils. During the fourteenth month the cousin reported to the Pediatric Clinic with impetigo of the lower extremities. Cultures of specimens from the affected skin and the nose grew the infectious staphylococcus.

Chart 2 shows the record of infection in another family, consisting of an infant, the parents and four siblings, which remained under somewhat more complete bacteriological observation. The infant left the nursery on the fourth day postpartum as an asymptomatic carrier of the infectious strain. Within the next three months the various family members had intermittent boils, but only the infant received medical attention for the lesions. Phage typing proved the organism to be due to the infectious strain. In the fourth month postpartum, the mother had two boils and impetigo in the perineal region. Cultures of material from the nose and throat obtained from the entire family at this time revealed that the mother, the infant, and two siblings were

Chart 2.—Record of Infection in Infant and in Six Other Members of Family

Age of Infant at Time of Infection in Self or Family	Infant	Mother	Father	Siblings			
				2 Years	4 Years	6 Years	8 Years
4 days	*Carrier**						
	Intermittent boils, various family members						
3 months	*Boil*						
4 months	*Carrier*	*Carrier* Boils, Impetigo	Negative	*Carrier*	*Carrier*	Another strain	Another strain
	Tetracycline, all family members						
7 months	*Carrier*	*Carrier*	Negative	Another strain	*Carrier* *Furuncle*	*Carrier*	*Carrier* *Furuncle*
	Erythromycin, all family members						
7.5 months	*Carrier*	*Carrier*	Negative	*Carrier*	*Carrier*	*Carrier*	Another strain
12 months					Furuncle		Furuncle
13 months	Negative	*Carrier* *Boil*	Negative	Negative	Another strain	*Carrier*	*Carrier*

*Italics indicate cultures phage typed and demonstrated to be the nursery strain.

carrying the infectious strain. The attending physician, not aware that the strain was tetracycline-resistant, treated the entire family with tetracycline for several weeks, without benefit. In the seventh month two siblings had furuncles due to the infectious strain, and they as well as three other family members were again found to be carrying the organism in the nose or throat. The entire family was then treated with erythromycin, to which the strain was known to be sensitive *in vitro*. However, after a week of therapy four of the five previous carriers continued to harbor the infectious strain in their throats; it was also now obtained from the throat of the two-year-old child. (This illustrates the well known difficulty of clearing the throat of a pathogenic organism. Similar failures have been experienced when attempting to clear the throat of hemolytic streptococci.) Infections continued to occur in this family. When members of the family were last examined, at the thirteenth month, the infectious strain was recovered from the nose, the throat and a boil of the mother, as well as from the nose and throat of two siblings. At this time cultures from the nose and throat of the infant were negative, but the strain seems securely established in this family and likely to persist.

Similar observations on familial infections, although somewhat less completely documented by phage typing, have been reported by Colbeck,[1] Kempe,[7] and Wentworth, Miller, and Wentworth.[11] These observations leave little doubt that the newborn is quite likely to disseminate staphylococci acquired in a hospital, and they demonstrate that staphylococcal infection in persons who are in contact with newborn infants are not likely to respond to antibiotics prescribed at random. Penicillin and the tetracyclines are likely to be valueless, and other antibiotics should be considered. Antibiotic sensitivity tests are an essential guide in the management of severe infections and of infections that do not readily respond to the antibiotic used first.

The staphylococcal infections now dealt with by pediatricians and general physicians must be treated with the possibility of a hospital strain in mind. Association between the infection and previous hospitalization of the patient or members of his family is not always readily apparent, as was illustrated by a case in the present study. Incidental to our research, phage typing has been performed on all staphylococci observed in the hospital's routine diagnostic laboratory. One culture received in July was puzzling for it came from a carbuncle of an outpatient, and the phage pattern was identical to that which had caused an outbreak of infection in the nursery six months previously. Upon examination of the patient's record it was noted that she had given birth to a premature infant in our hospital just at the time of the outbreak. The baby was among those who left the nursery as an asymptomatic carrier of the infectious strain. Since neither the mother nor the child had had clinical infection during the intervening months, it is doubtful whether this woman's infection would have been associated with the nursery except for the chance circumstance of our research investigation.

Antibiotic-resistant staphylococci are probably far more widely distributed in the community than is generally recognized. Their prevalence will continue

to increase so long as newborn infants bring them home from the nursery and continue to carry them. A solution to this problem will rest in part upon prevention of the acquisition of resistant strains by newborn infants during their stay in the nursery.

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Doctor Is Not The Chief Victim

A PANEL OF DOCTORS and lawyers got nowhere in their discussion of malpractice suits the other day in San Francisco.

Launching the argument, Judge Eustace Cullinan asked: "Why should doctors think they should be immune to malpractice suits?" This question puts emphasis on the wrong aspect of the situation growing out of the trend toward bigger and more frequent damage suits filed against doctors by disgruntled patients.

The ultimate victim is not the doctor but the patient, the person who needs the benefits of new developments in medicine and surgery. Most of these are still experimental to a certain degree.

Many doctors find themselves sticking to the old and time-tested treatments. The patient may be denied a "miraculous" recovery, but the doctor will be spared a malpractice suit.

For the good of both, the malpractice suit epidemic needs to be checked, but not by denying wronged parties the right to seek redress for real incompetence, real negligence. A step in the right direction is being taken by the profession in seeking to get doctors to abandon their unwillingness to testify against one of their own number; when courts and juries can believe that expert testimony in defense of an accused doctor is honest testimony and not motivated by "we-must-hang-together ethics," damage awards will be more realistic.

—Redwood City (California) "Tribune"

Diagnostic Abdominal Aspiration

Its Use in Acute Abdominal Conditions

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• **Aspiration of the abdominal cavity to withdraw fluid that collects in almost all cases of intra-abdominal disease that necessitates operation is a relatively easy and safe procedure that can help in deciding for or against operation in borderline cases.**

Diagnostic aid is given by observing the color, odor and cell content of the fluid. Inability to obtain fluid, although in general reassuring, cannot be trusted absolutely, for there may be severe disease without aspirable exudate.

Sometimes the intestine may be punctured by the aspirating needle, which contaminates the aspirate but apparently does not bring about leakage of bowel content.

THE LONGER THE DELAY before operation, the greater the mortality of acute abdominal conditions. It is an established fact that for every four hours' delay in operating upon a perforated duodenal ulcer or a progressive intestinal obstruction, the mortality rate increases by 25 per cent. This lethal time factor, generally speaking, holds true for many abdominal catastrophes. Although, in the majority of cases a correct diagnosis is made, operation is performed and the condition satisfactorily remedied, this is not always the case. Indications for or against operations are not always clear-cut, routine diagnostic procedures frequently do not indicate the severity of the pathologic changes and operation may be dangerously delayed. Sometimes operation is done when none is necessary. In such cases, aspiration of fluid from the abdomen may greatly aid toward swift appraisal and prompt operation. A common factor in all peritonitis is rapid formation of an exudate. The peritoneal lining weeps, pouring out fluids of various colors. It has been shown in animal experimentation that within an hour after strangulating obstruction occurs, cloudy fluid can be aspirated; and that over the next four hours the fluid obtained by serial aspirations gradually changes from cloudy to yellow, then tan and finally to a bloody color. Microscopically examined, the cloudy and yellow fluid may be seen to contain many leukocytes, the tan fluid a mixture of varying numbers of erythrocytes and leukocytes, and the bloody fluid a great many erythrocytes.

Aspiration of fluid for diagnostic purposes may be done with a No. 18 spinal needle 2 inches long with stylet in place on a 10 cc. syringe. With the patient lying on his right side and under 1 per cent xylocaine local infiltration anesthesia, the needle is gently inserted at the lateral edge of the rectus muscle, first in the lower quadrant, then in the upper quadrant; and if no fluid is obtained the patient is placed on his left side and the procedure repeated. Aspiration is not considered "negative" until no fluid is obtained in any of the four quadrants. There is less likelihood that the needle will penetrate the intestine than might be supposed, for it is mobile and elusive. Even if it is pierced, apparently no great harm is done. Nevertheless, a needle ought not be inserted through or near operative scars, for a loop of bowel fixed to the underlying abdominal wall by adhesions might be punctured more easily.

Contrary to most opinions, I find that abdominal distention is not a contraindication to aspiration. Indeed, in the majority of cases of intestinal obstruction in which I have done positive diagnostic aspiration, the abdomen was decidedly distended. It was shown in animals by Moretz and Erickson[1] that the intraluminal pressure has to be as high as 250 mm. (mercury) before air can escape through a puncture hole in the intestine—a pressure far exceeding any that might occur clinically. According to Wangensteen,[2] the usual intraluminal pressure observed in the presence of complete intestinal obstruction in humans is 20 mm. of mercury.

Abdominal aspiration by the method described was done in 50 unselected cases in which the diagnosis was possible acute intra-abdominal disease. A record was made as to the amount of fluid aspirated, the pH as determined with litmus paper, the odor and the microscopic appearance. These observations were then correlated with subsequent findings at the time of operation in 49 cases and at autopsy in one case. The fluid in all cases was either neutral or basic to litmus paper; contrary to expectation, it was not acid in cases of perforated duodenal ulcers.

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In general, the amount aspirated and the amount later found to be present in the abdominal cavity were closely correlated. The fluid was positive for abdominal disease in 40 of the 50 cases, negative in eight cases and contaminated with fecal matter in two cases owing to puncture of the intestine. The fluid aspirated was generally classified simply as bloody or nonbloody, the latter being cloudy or yellow or tan. The aspirate was nonbloody in 28 cases; and microscopically it was observed to contain many leukocytes, indicative of an inflammatory process within the abdomen. The postoperative diagnosis in this group included 13 cases of acute appendicitis, nine of perforated duodenal ulcers, two of sigmoid diverticulitis and one each of cholecystitis, parametritis, mesenteric adenitis and multiple superficial contusion of the small bowel. Twelve aspirated specimens were bloody, and the presence of erythrocytes was microscopically confirmed in ten. In the other two cases there were many leukocytes rather than erythrocytes and both patients died of extensive peritonitis, in one case owing to obstruction secondary to a strangulated hernia and in the other to extensive mesenteric thrombosis. The fluid aspirated preoperatively in the two fatal cases, although classified as bloody, was much darker in color than the fluid usually so classified. From this it may be conjectured that aspiration of very dark "bloody" fluid containing many leukocytes rather than erythrocytes is indicative of extensive serious underlying pathologic change.

Included in the group of 12 cases with bloody abdominal aspirate were five cases of gangrenous bowel from various causes, four cases of ectopic pregnancy, two cases of ruptured liver and one of kidney laceration. Seven cases in which no fluid was aspirated in any of the quadrants were considered "negative" and no obvious fluid was observed at laparotomy. Included in these seven cases were two cases of early appendicitis, one of impending obstruction due to kinking by adhesions, one of partially incarcerated diaphragmatic hernia, one of acute impending perforating duodenal ulcer and two of distended Graafian follicles with impending rupture. In one case no fluid was aspirated, yet fluid was subsequently observed to be present; the operative diagnosis was bilateral salpingitis. This was the only case in which fluid was present but was not aspirated. Failure to aspirate fluid cannot be taken as assurance that disease is not present. In such cases the clinical features should continue to guide the surgeon's judgment, the inability to aspirate fluid being disregarded if other observations prevalently indicate surgical exploration.

In the two cases of contaminated aspirate owing to accidental puncture of the bowel, the fluid had a fecal odor and the presence of bowel content was observed microscopically. Although I do not hesitate to carry out aspiration—with the precautions as outlined—to withdraw fluid from an "acute abdomen," I do adhere to one contraindication: Once contaminated aspirate is withdrawn I make no further attempt at aspiration. It should be noted, however, that in the two cases in the present series in which fecal contamination occurred, the puncture could not be found on careful examination at operation and there was no evidence of leakage of the bowel. Both patients—one had acute cholecystitis and the other an intestinal obstruction—recovered readily after operation.

Although relatively safe, aspiration of the abdomen should not be used indiscriminately but should be reserved for cases in which the indications for or against operation are not clear-cut and a decision must be reached lest the patient continue to deteriorate. It might be particularly useful in dealing with infants and children who are unable to help with a description of symptoms, in cases of multiple injuries (as in automobile accidents when a patient is comatose with head, chest and abdominal injuries) and in the case of very old senile patients whose bodily response to intra-abdominal catastrophe is often minimal.

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Congenital Cardiac Defects

Indications for Surgical Repair

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• **The optimum ages for the operative repair of the various congenital defects have not as yet been definitely established. With certain exceptions, it has generally been the authors' preference to delay elective operations until after the age of 18 months. In the usual case, the optimum age for the closure of septal defects is believed to be three to five years. Operative relief of stenosis of the aortic or pulmonic valves, however, is related entirely to the extent of the obstruction, age not being a factor. Although the surgical treatment of coarctation of the aorta is probably best delayed beyond the period of infancy, it is the authors' belief that in the presence of extreme hypertension, cardiomegaly or cardiac failure, early resection of the aortic block should be accomplished. As to the treatment of tetralogy of Fallot, the authors' policy is to delay operation until such time as definitive repair becomes less hazardous. Patients with severe symptoms, however, are given the benefit of some form of operative relief as soon as possible. Whether this is palliative or corrective depends upon the characteristics of the individual case.**

Definitive diagnostic studies are of great aid in assessing the urgency of operative intervention. The fact that approximately one-third of the patients dealt with required operation at less than 18 months of age suggests that, in selected cases, these studies should be performed early in infancy.

THE PROGRESS OF SURGICAL THERAPY for congenital cardiac abnormalities has been so rapid that considerable controversy has arisen concerning the best treatment for the individual patient. Conflicting opinions are common. Differences in the diagnostic and therapeutic facilities available and differences in past personal experience account in large measure for these divergent views. The family physician, who usually is the first to bear the burden of advising patients with disorders of this type, therefore often feels insecure in his ability to do so. The purpose of this paper is to present policies currently followed at the Medical Center of the University of California at Los Angeles in the management of patients with congenital heart disease. As knowledge of this condition increases, revisions of present opinions will undoubtedly be necessary, and it should be borne in mind that advice given the patient today may well be obsolete tomorrow.

In general, four distinct trends in the management of congenital cardiovascular anomalies are now appearing: (1) A progressive lowering of the age at which definitive diagnostic studies are undertaken, (2) a reduction of the optimum age for elective operation, (3) operative repair of asymptomatic lesions, and (4) the increased use of total cardiopulmonary by-pass with the pump oxygenator for the definitive correction of a number of lesions. These four trends are major factors in determining the management of the individual patient at this center.

DEFINITIVE DIAGNOSTIC STUDIES

Definitive diagnostic studies include right heart catheterization, selective angiocardiography and left heart catheterization. The age at which these studies are carried out must necessarily be individualized. In general, we believe that age is not an important factor, and our experience indicates that the degree of success, as well as the risk incurred, is no different in young infants than in older children with comparable lesions. Even the combined defects encountered in early infancy and so commonly associated with cardiac failure usually can be diagnosed with little hazard by these methods. We believe that the presence of cardiac failure is not a contra-indication to definitive studies, provided the patient has been given the benefit of a reasonable trial of therapy. With the exception of typical coarctation of the aorta or typical patent ductus arteriosus, all clinical diagnoses are confirmed by definitive studies before operation. Exploratory thoracotomy is performed only if the condition of the patient is such that time does not permit these studies. This has been necessary in only one patient to date, a 48-hour-old infant terminally ill with congenital aortic stenosis.

There are several reasons for performing definitive diagnostic tests before operation. First, it is important to separate those conditions requiring cardiac by-pass on the pump oxygenator from those that do not. Second, a precise knowledge of the

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TABLE 1.—*Operative Data on Patients Undergoing Cardiac Operation Between August, 1955, and December, 1957*

Type of Cardiac Anomaly	No. Under 18 Mos.	Cured		Surgical Deaths		No. Over 18 Mos.	Cured		Surgical Deaths		Total	Cured		Total Surgical Deaths	
		No.	Per Cent	No.	Per Cent		No.	Per Cent	No.	Per Cent	No.	No.	Per Cent	No.	Per Cent
Patent ductus arteriosus	8	8	(100)	0		23	22	(96)	1	(4)	31	30	(97)	1	(3)
Coarctation of aorta	6	5	(83)	1	(17)	11	11	(100)	0		17	16	(94)	1	(6)
Tetralogy of Fallot	1	1	(100)	0		11	9	(82)*	2	(18)	12	10	(83)*	2	(17)
Isolated pulmonic stenosis	6	3	(50)	3	(50)	16	16	(100)	0		22	19	(86)	3	(14)
Interatrial septal defect (secundum type)	2	1	(50)	1	(50)	10	10	(100)	0		12	11	(92)	1	(8)
Interventricular septal defects	8	3	(37)	5	(63)	12	7	(58)	5	(42)	20	10	(50)	10	(50)
Aortic stenosis	2	0		2	(100)	2	2	(100)	0		4	2	(50)	2	(50)
Miscellaneous	8	0		8	(100)	5	1	(20)	4	(80)	13	1	(8)	12	(92)
Total	41	21	(51)	20	(49)	90	78	(87)	12	(13)	131	99	(76)	32	(24)

*These patients were actually improved rather than cured, since the operative procedure was a Blalock-Taussig anastomosis.

hemodynamics involved is often of great value in assessing the urgency of operative relief and in predicting the surgical risk in a given case. Finally, determination of intracardiac pressures and flows supplies valuable information concerning the physiologic effects of various defects.

The selection of patient for definitive diagnostic studies, as well as for operation, is influenced not only by the condition of the child but also by the attitude of the parents. Some parents prefer to delay definitive study and treatment, others to proceed as quickly as possible. The wishes of the parents, if not inconsistent with the best interests of the patient, are complied with for the sake of easing parental tensions.

ANALYSIS OF PATIENTS OPERATED UPON

From August, 1955, to December, 1957, a total of 131 infants and children with congenital heart disease underwent surgical treatment (Table 1). Of these, slightly less than one-third were infants under 18 months of age. The majority of the patients in this latter group were considered to be in urgent need of operation. Many were terminally ill and some had lesions which are generally considered inoperable, yet approximately half of these infants were salvaged. It is our belief that had this group of infants been managed medically and operated upon later in childhood, the surgical mortality rate would have been considerably lower but the over-all mortality rate higher. Since the majority of the patients in the older age category presented problems of an elective nature, the cure or improvement rate in that group was higher.

Patent Ductus Arteriosus

It is our opinion that all patients with patent ductus arteriosus should be operated upon as soon as the diagnosis is established, provided the child is over 18 months of age. As to patients younger than that, only those who have a history of cardiac failure, frequent respiratory infections, growth failure or cardiomegaly are selected for operation. This is in agreement with opinions recently expressed by other investigators.[5]

It will be noted in Table 1 that there was only one operative death in a total of 31 patients operated upon for this lesion. The patient was an 18-month-old girl in whom the shunt had already reached the point of reversal.

Coarctation of the Aorta

The diagnosis of coarctation of the aorta is sufficient indication for surgical repair of the lesion. There still remains considerable controversy concerning the optimum age for operation. The syndrome in infants of left heart failure related to this condition is well known. Some investigators[7] believe that this is best treated conservatively; others[2,4,8] are of the opinion that surgical treatment gives better results. It is our belief that in infants with extreme hypertension, cardiomegaly or cardiac failure, relief of the aortic block should be accomplished when the diagnosis is established. In other cases, surgical correction may be delayed. In appraising the degree of hypertension present in these patients, it is important to recognize that measurements made by the flush technique approximate the mean blood pressure and are, therefore, lower than the true systolic blood pressure.[13,14]

As noted in Table 1, we have operated upon 17 infants and children with coarctation of the aorta, six of whom met our criteria for early surgical correction. The youngest patient was four months of age.* The one fatality occurred in a five-month-old infant with sepsis and intractable cardiac failure. Three of the 17 patients had an associated patent ductus arteriosus.

Tetralogy of Fallot

It has recently been demonstrated that the long-term results of palliative operation for patients with

*A 17-day-old infant, successfully operated upon for coarctation of the aorta by Dr. W. H. Muller, Jr., in 1953 is not included in the present series.

the tetralogy of Fallot are quite disappointing. White and his associates[21] observed that of patients who initially survive the Blalock-Taussig anastomosis, only 69 per cent maintain good results five to eight years later. The remaining 31 per cent either die or deteriorate because the anastomosis becomes ineffective. Since there is also an initial operative mortality of 10 to 15 per cent, it is apparent that this procedure is far from satisfactory. Definitive correction, however, is still associated with a high mortality rate.[1] We find ourselves then at a transitional stage where we are abandoning one procedure while not yet fully accepting its successor. Undoubtedly, the eventual treatment of choice will be definitive repair under total cardiopulmonary by-pass. We, therefore, at present choose to delay surgical treatment of most patients until such time as definitive repair becomes less hazardous. This does not apply, of course, to patients with extreme polycythemia, with frequent spells of paroxysmal dyspnea or with severe exercise intolerance. This latter group is given the benefit of some form of operative relief as soon as possible. The choice of the type of surgical procedure depends upon the characteristics of the individual case. For example, patients with a tetralogy of Fallot who have an associated atretic or absent main branch of the pulmonary artery are probably better treated by corrective operation, since clamping of a unilateral pulmonary artery is extremely hazardous.[16] On the other hand, patients with the extreme form of tetralogy of Fallot (atresia of the pulmonary valve) are probably better treated by a palliative procedure.

To date we have operated upon 12 children with this condition with an over-all surgical mortality rate of 17 per cent (Table 1). Definitive repair was attempted in only one patient, a two-year-old child with severe polycythemia. Although anatomical repair was successfully accomplished, he died several hours after operation.

Isolated Pulmonic Stenosis

The indications for operative relief of pulmonic stenosis have not been accurately defined. The policy in many centers is to operate if the systolic blood pressure in the right ventricle exceeds 50 to 100 mm. of mercury.[6,9,10,17,18,19] As discussed in a previous publication,[15] we believe that surgical correction should be performed regardless of the age of the patient if there are signs of exercise intolerance, if the systolic blood pressure in the right ventricle is 75 mm. of mercury or more, or if cardiac failure threatens. We have operated upon 22 patients with this lesion (Table 1). Of the three who died of the operation, all had extreme cyanosis and decidedly reduced cardiac output.

Interatrial Septal Defects

It is our present policy to repair all atrial septal defects, whether they produce symptoms or not. Closure is accomplished by direct vision with the patient under hypothermia. The optimum age for repair is three to five years. Since this lesion does not commonly cause severe symptoms in infancy, operation is rarely indicated in the younger age group. In only two of 12 patients with this lesion was the operation done in early infancy. One was misdiagnosed as having a ventricular septal defect and the pump oxygenator was used for the operation. The other had intractable cardiac failure and was found at autopsy to have an associated interventricular septal defect. The surgical mortality rate in the 12 patients with interatrial septal defect was 8 per cent (Table 1).

Interventricular Septal Defects

The indications for surgical closure of interventricular septal defects are exercise intolerance, roentgenographic signs of increased pulmonary flow or cardiac enlargement, electrocardiographic evidence of ventricular hypertrophy, or elevated pulmonary blood pressure as determined by right heart catheterization. Undoubtedly, in the not too distant future, presence of the lesion alone will be sufficient indication for correction. The optimum age for operative repair has not as yet been established. Technically, closure of the defect even in the smallest infants is not difficult. However, under the age of two years the principal problems are control of a constant blood volume during cardiopulmonary bypass and the management of postoperative respiratory complications. It is primarily for these reasons that, whenever the condition of the patient permits, we prefer to delay operation to the age of three to four years.

To date 20 infants and children have been operated upon for closure of this defect, with a mortality rate of 50 per cent (Table 1). This high mortality rate is undoubtedly due to the poor case material and to the type of pump oxygenator used in our early experience. As priority was first given to those considered to be most urgently in need of operation, 60 per cent of the patients in the series were in the so-called "50 per cent mortality group" —that is, the patient's age was under two years or the pulmonary artery pressure was greater than 70 per cent of the systemic pressure.[5] There has been but one death in the last eight operations. Although this is too small a group to calculate a dependable mortality figure of 13 per cent, we do feel that this latter figure well approximates our current overall operative mortality. In a given case, however, the risk rate may be relatively low or may be 100 per cent, depending primarily upon the condition

of the pulmonary vascular bed. Increased pulmonary vascular resistance produces pulmonary hypertension and, as already stated, when the pulmonary artery pressure exceeds 70 per cent of the aortic pressure, the chances of survival are lessened considerably. Should the pulmonary artery pressure exceed that in the aorta, the patient is considered inoperable. It is important to recognize that high pressures in the pulmonary artery are often not reflected in the clinical condition of the patient and may be determined with accuracy only by right heart catheterization.

Aortic Stenosis

The indications for operative relief of aortic or subaortic stenosis have not, as yet, been clearly delineated. With accumulating experience it is rapidly becoming apparent that the risk of sudden death or cardiac decompensation is not insignificant.[3,12] For this reason, our present policy is to operate at an early age. We believe that any child with aortic or subaortic stenosis should have the benefit of operation, irrespective of his age, if he has a history of syncope or exercise intolerance, or has pronounced cardiac enlargement as determined by electrocardiographic or roentgenographic studies. If cardiac failure is imminent, operation should be performed as an emergency procedure. If cardiac failure has already occurred, operation should be done after adequate trial of digitalization.

Miscellaneous Cardiac Defects

Of the 13 patients listed in the miscellaneous category in Table 1, the only one who survived was a four-year-old girl with total anomalous drainage of the pulmonary veins. Of the remainder, two had complete transposition of the great vessels, five had some form of "persistent common atrioventricular canal" according to the definition of Wakai and Edwards,[20] and five had non-correctible complex lesions. In all of these patients cardiac operation under direct vision, utilizing the pump oxygenator, was attempted. In the two patients with complete transposition of the great vessels, complete anatomic correction was accomplished before death. Although neither patient survived, the future of this definitive approach is promising.

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Principles of Diagnosing Occupational Diseases

Special Considerations to Avoid "Creating" an Entity

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• **The traditional diagnostic procedure adhered to in general medicine is too frequently neglected when a physician is confronted with a possible occupational disease. Also, the proper diagnosis in occupational medicine requires additional effort along lines of investigation not necessary in general medicine. Failure to conform to the basic steps as outlined in this paper will distort known entities or "create" false ones.**

THERE ARE MANY REASONS why the diagnosis of occupational diseases* is not on the same level of proficiency as diagnosis in general medicine. In general medicine (the term is used here to distinguish all phases of medical practice from occupational medicine) only infrequently are there additions to the known causes of disease. By and large a physician is called upon to recognize entities which time has earmarked. To confirm his suspicions that he is dealing with a familiar entity he assays the history and physical findings and then confirms his diagnosis by laboratory tests previously used in similar circumstances. In short, there is a traditional effort to be as scientifically positive as possible. All this is a grooved procedure.

Furthermore, physicians in general medicine practice within an area of readily accessible knowledge. It is present in the daily conversations with their confreres, at staff conferences, society meetings and in the journals they read. By such means and within this atmosphere, entered as early as medical school days, most physicians keep abreast of the diagnostic methods used in modern medicine. But —and herein is an important premise of this communication—medical education and subsequent experience have been largely concerned with and confined to the infections and affections of communal origin.

In sharp contrast few physicians have any or at most only meager knowledge of the environmental factors in their patients' jobs. In fact very few physicians fully comprehend the term *occupational medicine*. This is understandable but lamentable. Medical schools have allowed little or no time for the subject in their curricula. Rarely is a case of occupational disease presented at hospital staff conferences or on ward rounds. Few physicians in general medicine subscribe to journals or have textbooks devoted to this subject. Yet, despite a background devoid of training or experience in occupational medicine, few there are who will not ignore the diagnostic "ground rules" adhered to in general medicine and turn to conjecture when confronted with a case related to industrial exposure.

In general medicine an erroneous or even a tardily correct diagnosis is not always necessarily detrimental to the patient. And today there are circumstances in which the rise of the therapeutic efficacy renders an exact diagnosis immaterial. Quite often the miracle drugs effect a cure before the search for the cause of disease has been initiated.

In sharp contrast, the unfounded assumption that a patient does or does not have an occupational disease entails several factors of disservice, therapeutically and economically. It is of little or no avail to treat, say, a case of anemia or dermatosis or dysfunction of any of the various systems if the cause resides in an occupational exposure and remains unrecognized. Likewise, the economic impact arising out of the delay involved in the assumption of liability among the carriers of workmen's compensation, group insurance and state unemployment insurance upon the breadwinner of a large family is one that few physicians fully appreciate. This situation is particularly acute when a physician erroneously ascribes an illness to the patient's working environment. The workman's claim then may become a badminton bird, batted back and forth for months on end.

In general medicine, as previously intimated, a disease entity becomes established and accepted very much upon the postulates laid down by Koch. His stipulations have been augmented by the biostatistic and epidemologic disciplines. Malaria, tuberculosis and other diseases could be mentioned to illustrate

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*An occupational disease is one which occurs with characteristic frequency and regularity in occupations where there is a specific hazard. The effects produced present a recognizable clinical entity.

this truth. When the cause has been established the clinical syndrome is not distorted by giving credence to unrelated signs or symptoms. A tuberculous patient could also have gonorrhea yet no one would ascribe both conditions to the same kind of exposure.

The value of and the necessity for utilizing the epidemologic approach is testified to by the report of the Committee on Occupational Cancer of the Council of Industrial Health. Therein it is stated: "The past three decades have witnessed the birth and large-scale development of experimental methods for the study of carcinogenesis. This has permitted identification of an extensive list of chemical compounds capable of causing cancer in animals in specific experimental situations. A number of these compounds are encountered in various manufacturing processes. It is not correct to assume from these two facts that the risk of developing cancer among industrial workers thereby is either increased or left unchanged. This can be ascertained only by appropriately conducted investigations, and the answer ultimately must be derived from observations on workers in specific occupations and industries. It is essential, therefore, for the investigator who would study occupational cancer, to have for comparative purposes reasonably reliable estimates on the 'normal' incidence of cancer of various types and sites."

What has been said here regarding the study of occupational cancer applies to all occupational diseases. It must be appreciated that the physician of today and increasingly in the future will be confronted with industrial hazards in which new chemicals will be introduced about which we have as yet little statistical data as to their actions upon humans. For example, in this particular geographical area considerable use and experimentation is going on with the liquid and solid fuels or propellants for missiles. About these and other recently introduced chemicals we must refrain from making premature conclusions.

Let us now consider the proper approach to the diagnosis of an occupational disease, keeping in mind that an occupational disease tends to mimic the signs and symptoms of a nonoccupational disease. Rarely can a disease resulting from an industrial exposure be identified as such by a medical examination. The initial portion of the history-taking is similar to that traditionally followed—present complaints, past medical history, inventory of systems and so forth. Then the patient is asked to describe in detail all the work he has engaged in since he left school. Here a physician must take cognizance of long employment in one trade. This is especially important if the exposure has been to certain dusts, carcinogens or those aromatic substances capable of producing blood dyscrasia. This initial phase calls for exhaustive interrogation.

The next step is to evaluate and fully comprehend the nature of the present occupational environment. One should not accept the job-title as a description of the worker's complete activities or as indicative of the presence or absence of exposure to a toxic substance. (When asked what kind of work she did, a young woman who had pronounced anemia and abnormal menses informed the physician that she worked with cement. He could not relate her difficulty to Portland cement, which is what the word meant to him. Actually she was sealing tanks with a so-called rubber cement and in the process was exposed to benzol, a recognized cause of anemia when absorbed in heavy concentrations.)

The previous example introduces the next procedure to be followed, namely, identification. In general medicine the patient asks the physician the cause of his illness. In contrast, the worker who assumes that his illness is due to his work tells the physician the cause. Therein lies a diagnostic pitfall. "It is bothering me," or "that stuff I work with is making me sick" are common utterances which are too often accepted by physicians who in any other circumstance would not permit a patient to supply a diagnosis. Almost invariably the worker does not know the chemical nature of the substance to which he has been exposed or will state some trade name or the code number of a product, which does not reveal the basic ingredients.

How does a physician identify "it" or "that stuff" to which the worker-patient refers? The answer is that he often does it by effort beyond that ordinarily required in general medicine. One cannot hope to find the answer in the usual textbooks on medicine. Sometimes a phone call to the plant physician or nurse will be sufficient, but many small plants do not have such personnel. Information from the plant manager or foreman may be correct, but too often is not. The correct information can usually be obtained by a phone call or letter to the manufacturer of "it" or "that stuff," stating the reasons for the inquiry. To obtain a complete and correct view of the substance and the circumstances, it is often necessary for the physician to go to the plant. If a physician feels that he cannot do so, or feels that he is incapable of making the necessary observations, he can get help from persons or agencies that are better trained in this particular field. He may call in a private industrial hygienist, or in some cities he may get aid from a medical school that has a department of occupational medicine. Other possibilities are local county and city health departments which sometimes have industrial hygiene departments, or the United States Public Health Service, Division of Industrial Hygiene. No matter

by what means, the exact identification of the accused agent is essential.

The next logical step in diagnosis is to classify the identified substance. One must classify a dust as being either inert or as capable of producing reactive fibrosis. Classification would likewise take into consideration the application of heat to certain metals which in a cold state would be inert. Many of the industrial fumes or vapors come from the hydrocarbons. A primary differentiation is between the aliphatic and the aromatic series. Gases may then be classified as to whether they are of irritant, asphyxiant or narcotic type. One must also consider whether the substance is one that accumulates in the body or is rapidly eliminated.

The next phase of the diagnostic procedure is the utilization of laboratory procedures. Relatively few industrial poisons produce specific laboratory findings. Certain of the heavy metals may be recovered from the biological fluids. The urine sulphate ratio is often an aid in determining an undue exposure to benzol, phenol or aniline. Obviously x-ray films of the chest are valuable in detecting pneumonitis, pulmonary edema, fibrosis or nodulation. They must be interpreted with extreme care for in cases of industrial exposure there is a tendency to read more into the film than actually exists. Bone marrow studies are indicated in cases of exposure to anemia producing compounds. Scalenus node biopsy is frequently of value in searching for the cause of pulmonary disease. Estimations of radon in the expired air should be routinely done in the cases of patients handling radioactive materials. X-ray diffraction is helpful in determining the presence or absence of quartz in certain material to which an individual is exposed.

Following the steps in the foregoing outline, diagnosis may turn to what may be called the "matching process."

This involves a consideration of all possible diagnoses in light of the data assembled, matching each possibility with all supportive evidence in the data —and opposing each with all contradictory evidence. This procedure eliminates the "jumping to conclusions" technique. Failure to apply the matching process in a suspected occupational disease accounts for most of the diagnostic errors. Likewise, this method will often reveal an occupationally-caused illness when, to that point, the cause was not recognized. The following is a case in point:

CASE 1. In the summer of 1957 a 39-year-old man began having periodic attacks of a sensation of constriction within the chest, with cough and dyspnea. The attacks were of short duration, usually two days at the most. After observing him on several occasions the family physician referred the patient to an allergist but multiple tests failed to reveal the cause. In January, 1958, the worker wondered if his occupational exposure might be the cause. His employer referred him to our office. In evaluating his history it was soon learned that his job-title, *spray painter*, was a misnomer; it was used only because his initial job with the company was spraying zinc chromate. For the previous two years he had been engaged in coating and backing electrical equipment. At this point in the history, identification of all material used was necessary. Except for zinc chromate, which he occasionally still sprayed, the chemicals used in his occupation were an epoxy-resin, neoprene, buna rubber, perchlorethylene and hylene. The next step was to apply the epidemiologic data. Neither from our own experience or from the literature could we bring up evidence that exposure to the epoxies, neoprene, buna rubber or perchlorethylene would result in the clinical condition confronting us, but we did not know the chemical nature of hylene. Therefore, we asked the following questions. (1) Did the patient use all these materials daily? All except hylene, which he used only once every three or four weeks. (2) How often did he have these attacks? Every three or four weeks. This seemed to spotlight hylene, but it could not be definitely blamed without determining its chemical nature. All the worker could tell us was that it was labeled Hylene, DuPont M-50. After some effort it was learned that Hylene was the trade name for methylene bis (4-phenyl isocyanate) monochlorobenzene.

This information concluded our matching process, for we knew from experience—and from the literature—that the isocyanates are capable of producing an attack of chest constriction, cough and dyspnea of short duration. The foregoing case illustrates the proper approach to diagnosis of an occupational disease. The one following is illustrative of the hazards of omitting some of the steps.

CASE 2. In 1943 a 45-year-old man began working at an oil refinery, first as a general helper, then in sequence as a foreman, as stillman B and finally as stillman A. His past medical history was essentially negative and irrelevant. In August, 1957, numbness of the lower legs developed, not associated with pain. When the patient was examined in our office in January, 1958, the condition had remained unchanged. After being treated by a physician under group insurance without improvement he was referred to a neurosurgeon of excellent reputation. After a period of study the specialist referred the patient back to the original physician with the following statement: "Handles acids and chemicals: Hydrochloric acid, ethyl, lead, chromic acid used as a catalytic agent and exposed to SO_2 fumes and hydrofluoric acid." The physician's statement under the word *Impression* on the report form was "Polyneuritis lower extremities on chemical basis. Absorbed sufficient toxic material in work as a gasoline cracking plant operator to produce typical polyneuritis confined to lower extremities. It could be

lead, chromic acid or other toxic chemical matter." The above quoted statement induced the worker to enter a claim under Workmen's Compensation, whereupon his group insurance underwriter ceased paying for medical care.

Let us examine certain fundamental errors in the conclusions reached by the neurosurgeon. The worker had a history of chronic alcoholism. Whether this could be a factor in his complaints was ignored. At least it was not evaluated. Next, his occupational environment was not investigated. One can easily understand that a specialist in Los Angeles is not likely to drive to Wilmington [some thirty miles] to survey the plant, but he could have obtained accurate information by other means. He should have asked himself, what does a stillman A do? The answer is that a stillman sits in a clean, well furnished room resembling one in which the board of directors might meet. On the wall of the room there are numerous dials and recording machines which indicate the levels, rate of flow, temperatures and pressure of gases and liquids existing at distant points. Only in some unusual emergency would he be exposed to any chemical. In his daily routine he would have less exposure to chemicals than would the average housewife.

So much for the failure to investigate the nature of the occupational environment. The next error was the failure to identify a specific etiological agent or specific chemical. To say that "it could be lead, chromic acid or other toxic chemical matter" is shooting in the dark. For instance, to assume that chromic acid could cause neuritis is simply an attempt to create an entity not known to exist. There is no more justification for this assumption than there is to state that numbness is due to tinea capitis. Or take the statement, "It could be lead." There is no justification for assuming the abnormal absorption of lead. Determining whether there is such absorption is easily carried out by estimation of lead in the urine or in whole blood.

Other factors of the diagnostic "matching process" as they apply to this case could be considered, but reference to the epidemiologic discipline is sufficient. In this particular case the questions should have been asked: Is numbness or neuritis of the lower extremities ever caused by an occupational exposure? If so, what are these occupations? Is there known to be an incidence of lower extremity numbness among stillmen in oil refineries? Is there a known incidence of it among any division of oil refinery workers sufficient to warrant suspicion of a relationship? In short, this case typifies the unwarranted "creation" of an occupational disease entity.

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Rapid Estimation of Blood Sugar Content

A New Method Using Clinitest® Tablets

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• **A new, simple method for estimation of the sugar content of the blood, employing Clinitest® tablets such as are used for urine tests, gives quick information in cases of suspected diabetic acidosis.**

THE UTILITY of frequent blood sugar determinations in the management of diabetic acidosis and coma is often impaired because of delay in obtaining reports. Commonly this fundamental measure of the temporarily altered metabolic state is available to the clinician only at intervals varying from 45 minutes to two hours after venesection—too late to be of value except as aid in estimation of the current status by way of hindsight.

A method for the rapid estimation of blood sugar has been developed on the Metabolic Service of the Los Angeles Veterans Administration Hospital which has been found useful as an adjunct to the management of diabetic patients in acidosis. This method makes use of Clinitest® tablets, commonly used for urine testing, and other equipment that is available in any hospital ward laboratory. The method is rapid and simple and adds as little burden as possible to a busy house staff.

METHOD

Test tubes etched with a line at the 5 ml. level, identical with those in common use for the determination of the prothrombin time, are prepared by adding 0.5 ml. of 50 per cent sulfosalicylic acid. The tubes (blood Clinitest tubes) are fitted with rubber stoppers and kept available on the ward for blood sugar estimation.

In performing the test, 4.5 ml. of freshly drawn venous blood is added to the blood Clinitest tube directly from the syringe. This brings the total amount of fluid, blood and sulfosalicylic acid, up to the etched line. The tube is then stoppered, gently inverted three or four times in rapid sequence and then vigorously shaken until no trace of red color remains. Protein precipitation has been found to be complete when the contents are a dull brown in color, the change taking from one to two minutes of vigorous shaking. The tube is then unstoppered and centrifuged for ten to fifteen minutes. Exactly six drops of water is then added to a clean test tube, care being taken to add the drops vertically so that none of the water runs down the side of the tube. To the six drops of water are added nine drops of the protein-free supernatant. Then a Clinitest tablet is added to the resultant mixture and the tube is gently agitated while boiling is taking place. After a wait of a minute or longer the color is compared to the standard Clinitest urine color chart. Correlations of color changes with total content of reducing substances per 100 cc. of blood has been found to be as follows: Trace, 125 mg.; one plus, 125 to 225 mg.; two plus, 225 to 465 mg.; three plus, 465 to 585 mg.; four plus, 585 mg. or more.

It has occasionally been found desirable to subdivide the rather wide two plus range. This is done rather simply by adding five drops of supernatant to ten drops of water and repeating the test. With this modification the following color correlations are found: one plus, 225 to 325 mg. per 100 cc.; two plus, 325 to 465 mg.

Standardization of the method was carried out with water standards prepared by using standard dextrose supplied by the U. S. Bureau of Standards. The ratio of nine drops of supernatant to six of water is the result of a series of trial and error approximations using glucose water standards in the place of supernatant. This dilution was found to produce the most useful range of values with color changes occurring at points chosen to be of value in the management of acidotic patients. Exacting care as to addition of the proper number of drops was found to be essential if results are to be duplicated. The sugar content of a series of blood specimens from diabetic patients was determined both by the method described and by the hospital clinical laboratory using the method of Kingsley and Reinhold.[3] Blood sugar values varied from 34 to 672 mg. per 100 cc. and a reasonably close correlation

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TABLE 1.—*Comparison of Blood Clinitest Determinations with Plasma-True Glucose*

Blood Clinitest Reading	Predicated Range of Values (mg. per 100 cc.)	True Glucose (Kingsley and Reinhold Method[3]) (mg. per 100 cc.)
Trace	125 or below	34, 78, 83, 136
One plus	125 to 225	149, 170, 170, 188, 200, 222, 292
Two plus	225 to 465	267, 276, 284, 292, 328, 342, 346, 404, 465
Three plus	465 to 585	346, 353, 445, 448, 506, 540, 584
Four plus	585 or above	610, 672

with the blood Clinitest predictions based on water standards was noted, as shown in Table 1.

DISCUSSION

Many methods to simplify the time-consuming, multiple-step procedures for determining of blood sugar have been devised in an effort to make them useful for bedside or ward use by a clinician caring for a diabetic patient. Without attempting a critical review of the literature, it may be said that none of these methods have come into wide use because of the number of steps involved or the special equipment required. A recent method using glucose oxidase impregnated paper (Tes-Tape®)[6] was tried by the authors but was considered unsatisfactory because of the variability of color reaction and the need for the preparation of serial dilutions. Leonards[4] documented the difficulties in using this product for quantitation of urine sugar, and our own observations using both urine and blood tended to confirm Leonards'.

Of particular interest are two recent communications in the British literature describing a method quite similar to the one herein described.[1,5] With this method a tablet of sulfosalicylic acid eliminates the need for pre-prepared tubes, and a more dilute solution permits filtration. The range of values is restricted, however, to 200 mg. per 100 cc. or less, thus effectively omitting the range which is most significant in the management of diabetic acidosis unless serial dilutions are used.

We have found it useful to perform a blood sugar estimation in the admitting room when the diagnosis of diabetic acidosis is first suspected. The result then accompanies the patient to the ward, where therapy with insulin and nonglucose-containing fluids may be instituted without delay. The use of nonglucose-containing fluids makes the estimation of the blood sugar an excellent guide as to the efficacy of the insulin dosages employed. Glucose is withheld until a definitive reduction in blood sugar has occurred or until the Clinitest indication of sugar content is one plus (125 to 225 mg. per 100 cc.). The protein-free filtrate is also suitable for the estimation of blood acetone,[2] and we have found it desirable to perform this determination in association with blood sugar estimation.

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Social Security Says:

"THERE IS NO PROVISION in the law which permits a refund of social security taxes paid if you do not have enough work under the law to get social security payments."

In other words: Your uncollectable "contribution" goes to charity, and not "insurance."

—*From the Department of Public Relations, American Medical Association*

Dermabrasive Ablation of Acne Scars

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• **Dermabrasion offers cosmetic improvement of acne pits and scars, but only well-adjusted patients should be selected for this esthetic improvement. In the dermabrasion operation the deep cup-shaped pits are made shallow by saucerization, for the deep sharp shadows are eliminated as the pits are shallowed. It is the elimination of the shadow effect which is so gratifying to the patient.**

Although dermabrasion is a superficial skin operation, it involves dangerous instruments and thousands of minute incisions. The procedure is a surgical operation, whether done in an office or in a hospital. The author performs the operation entirely as a hospital procedure, using pentothal anesthesia with meperidine added in small increments during the operation. Thus the operation may be unhurriedly and meticulously performed.

ANY FACIAL DEFORMITY may be accompanied by a personality defect. Even the pits and scars of acne can be a social and economic handicap. They can be improved cosmetically by *dermabrasion* (a term coined by Rein[3]).

Patients requesting ablation of facial scars should be evaluated as to their emotional state. They may be considered in three classes: Well-adjusted persons, persons with inadequate personalities, and psychotic or prepsychotic persons. The well-adjusted patients desire the treatment for purely cosmetic purposes; they may also mention their desire for social and economic advantage. These patients have clear insight into their problems and are obviously robust and healthy emotionally. Persons with inadequate personalities obviously retreat behind their facial handicap and blame all their inadequacies and dissatisfactions on it. Some of the patients of this order may find a psychic adjustment through the physician's interest and the esthetic improvement which they obtain. Persons of the third classification use their acne scars as rationalization for all their personality, social and economic difficulties, giving the scars an importance completely out of proportion to the disfigurement. To correct the deformities of such patients may merely place them in a position to find something else to blame for their troubles. They may select the physician to hang their difficulties on. But if great care is used in selection of the patients for dermabrasion, great cosmetic and emotional improvement can be obtained.

An acne pit is a depressed scar involving the pilosebaceous ensemble. The pilosebaceous aggregate may be large, small, shallow or deep; the pitted scar, therefore, may vary in size and depth. The acne pits are more or less cup-shaped, usually with steep edges. Under overhead lighting, each of the pitted scars has a shadow under its upper rim. It is this shadow effect which accentuates the scars and draws attention to them.

The abrasion procedure whips away at the pitted scars, removing the dermis with the scarred pilosebaceous units and making the deep cup-shaped pits shallower and saucer-shaped. This eliminates the deep, sharp shadows. Not all the pits are destroyed, however. Some undulation of the cutis remains, but the more or less complete elimination of the acne pit shadow effect is what is so gratifying to the patient.

The development of the dermabrasion technique from Kromyer[1] to Kurtin[2] is well known. Kurtin's innovation is generally thought of in terms of his ingenious motor-driven high-speed wire brush, and the office anesthesia of ethyl-chloride spray. This anesthesia made it possible for dermatologists to perform the surgical procedure in the office, which they at first did timidly and now do with great enthusiasm.

It was the rigidity of the skin brought about by the freezing technique which made it possible to truly abrade the skin with more controlled depth than was possible with the sandpaper or burrs alone formerly used on a yielding field.

Now more operators are using the refrigerating topical anesthetic Freon 114 (dichlorotetrafluorethane) instead of ethyl chloride. Its refrigerating and solidifying properties are good and the exasperating blower noise which accompanied the ethyl chloride technique is eliminated. With its use the operating field is neater. Another advantage is that, unlike ethyl chloride, chance traces in the air do not produce the first stage of general anesthesia—illness of ease and excitement of the patient. A twisting, writhing patient, inadvertently inhaling ethyl chloride, can cause a hazardous surgical situation, for the revolving steel brush or serrated burr is always a potentially dangerous instrument.

Most operators pre-cool the face with the application of a chilled bag of propylene glycol for 15

Submitted October 2, 1957.

Figure 1.—Acne pits and scars before and after dermabrasion. Lighting factors are constant, with cross lighting to accentuate shadow effect. Deep linear scar on left cheek almost completely ablated.

or 30 minutes on the cleansed skin. The base of each pit is marked with a suitable dye to insure that there will be no skipped areas.

The smoothing of the skin is performed in areas of about two and a half or three inches in diameter at a time. With the patient supine on the operating table, the periphery of the face is abraded first, the abrasive instrument being worked spirally around the rim of the face and forehead. Working from the periphery toward the center prevents capillary bleeding from areas already treated from obscuring the operating field to be dealt with next. Each area is sprayed with a freezing solution, dichlorotetrafluorethane (Frigiderm®). The sprayed area becomes anesthetized for a fraction of a minute during which the skin is rigid and the superficial flow of blood immobilized. The anesthetized area is promptly abraded.

Some surgeons use a stainless steel wire brush that is rotated at 13,000 to 15,000 revolutions per minute by a flexible cable. A serrated burr is also a good abrading instrument. Each area is smoothed by parallel strokes of the revolving brush, the strokes overlapping. Each area may be further cross-hatched with the instrument in particularly pocked areas.

Occasional active lesions are no contraindication for dermabrasion. Scattered lesions such as pustules, either small or of the conglobate type, are no deterrent. During the operation, as the steel wheel whips over the pustular area, the lesion is literally unroofed. The contents spill but this does not seem to hinder the cosmetic improvement nor complicate the convalescence. However, widespread active acne is a contraindication. Dermabrasion is essentially a treatment for the sequelae of acne, not of acne itself.

I make no attempt to stop the bleeding until the entire face is abraded, with the peaks of the villi oozing over the entire face. After the abrading is completed, I clean the entire raw area with hydrogen peroxide liberally doused, brushing away the detritus and epithelial debris thoroughly. Each of the thousands of tiny fragments of free epithelium is a free skin graft in miniature. These grafts "take" easily and promptly wherever they repose upon the face, later forming miliary cysts and epithelial upcroppings which are a source of postoperative annoyance. After the face is cleansed, Telfa®* strips are applied and a pressure bandage is used to cover the entire face. I order all bandages removed after two hours. At that stage the wounds of the face are weeping a plasma-like fluid, and when exposed to the air the exudate begins to congeal, the first sign of the crusting that develops.

About six to eight days after the operation, the thick dark crust begins to crack and fall off. Once the crust begins to disintegrate, removal of it may be safely expedited by soaking the face with warm, moist packs. The skin thus uncovered is pink; an emollient such as cold cream may be safely applied. The patient should be cautioned about premature exposure to the sun.

Usually the patients are gratified by the results and become enthusiastic enough to ask for repeated dermabrasions. Overenthusiasm must be resisted, however, for some patients conclude naively that the skin can eventually be made smooth to the point of

*An absorptive material that is easy to remove from weeping surfaces.

Figure 2.—Typical cosmetic improvement resulting from dermabrasion.

normal. Dermabrasion once is enough for moderate acne pits and scars; for severe cases two or more operations may be necessary. The procedure may be repeated after two months.

The limitations of the procedure must be explained to the patient. Since the "50 to 80 per cent improvement" that has become a cliche of prognosis can be so variously visioned, one should make promises guardedly but with the observation that in all cases the procedure is definitely helpful. It is important, I believe, to explain to the patient that part of the immediate improvement and gratifying smoothness is owing to the edema of mild surgical insult. The slight swelling stretches the saucerized pits, creating an effect so pleasing that the patient hopes it will be permanent.

It is obvious that dermabrasion is a surgical operation, whether the surgeon elects to do it in the office or in the hospital. It opens literally thousands of portals of entry for infection. Further, it is an esthetically brutal procedure; some squeamish patients are quite disturbed during the procedure and alarmed immediately afterward despite reassurances.

I do the operation entirely as a hospital procedure. Urinalysis and blood cell count are done beforehand and clinical photographs are taken. The anesthesiologist visits the patients soon after they arrive at the hospital and orders the premedication to fit the weight and temperament of each patient.

A patient who is particularly apprehensive may enter the hospital the afternoon before operation so that sedation may be started and a quiet night's sleep assured. Generally used for this purpose is sodium pentobarbital, 0.1 gm. (grains 1½) by mouth and promethazine hydrochloride 0.25 mg. by mouth for patients weighing 120 to 150 pounds, two hours before operation 0.2 gm. of pentobarbital sodium is given, then an hour before operation the following: 0.3 mg. of scopolamine and either 15.0 mg. of morphine or 75 to 100 mg. of meperidine hydrochloride (Demerol®). With this preparation the patient is completely relaxed, dozing and tranquil upon entering the operating room. There the left arm is prepared for intravenous fluid administration at once.

Since the purpose of the operation is to eliminate the shadows of acne pits, the operating room lamp is placed directly over the head of the patient so that there are shadows under the eyebrows and under the chin. This accentuates the shadow effect of each acne pit. As soon as intravenous inflow is established, Demerol is added in small increments until the patient is barely asleep, and then administration is continued in small increments during the operation. Never is more than 100 mg. of Demerol given intravenously in the course of the procedure. Thiopentothal sodium (Pentothal) is added as necessary in a 3 per cent solution to keep the patient quietly asleep. The patient is also kept asleep during the cleansing phase of the procedure. Wiping the face clean with peroxide-soaked sponges is unusually painful and irritating otherwise. The temporary Telfa and pressure bandage is then applied and the patient is permitted to awake. Most patients are astonished that the operation is finished; "Oh, I was waiting for you to begin" is a usual comment.

After two hours the bandages are removed entirely and the patient is discharged from the hospital about 12 hours later. Acetyl salicylic acid is given for facial discomfort after the operation, and for three days after the operation, 0.1 gm. (grains 1½) of sodium pentobarbital is taken at bedtime.

By consideration of the dermabrasion operation as a surgical procedure, to be carried out with the help of a good anesthesiologist, the operator gives the patient the benefit of the latest and safest techniques available in pain repression. The operation may be done more carefully, too, with an anesthesiologist on hand to keep the patient in a state of maximum comfort and safety. Larger scars may be safely excised in this environment; meticulously and unhurriedly, with a careful plastic repair. The incisions may be lightly brushed, to spread the epithelium evenly over the repaired area.

9735 Wilshire Boulevard, Beverly Hills.

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For Your Patients—

A Personal Message to YOU:

As your personal physician I consider it both a privilege and a matter of duty to be available in case of an emergency. But, being only human you can understand that there are times when I may not be on call. I might be at a medical meeting outside the city, on a bit of a vacation—or even ill.

Consequently, I thought it would be a good precaution if—on this gummed paper which you can paste in your telephone book or in your medicine cabinet—I listed numbers where I can be reached at all times. Also, the number of a capable associate as an added service. Here they are:

_____	_____	_____
OFFICE	HOME	MY DOCTOR
_____	_____	_____
OFFICE	HOME	ASSOCIATE

Sincerely,

_____, M.D.

MESSAGE NO. 1. Attractive, postcard-size leaflets printed on gummed paper, you to fill in telephone numbers and your signature. Available in any quantity, at no charge, as another service to CMA members. Please order by Message Number from CMA, PR Department, 450 Sutter, San Francisco.

Congenital Dislocation of the Hip

A Study of Open Reduction After Failure of Conservative Treatment

JAMES ROCHE, *M.D.*, and FREDERIC W. ILFELD, *M.D.*, Beverly Hills

• **In a study of 42 cases in which open reduction of congenital dislocation of the hip was carried out after conservative treatment had failed, the following observations were made (in a relatively short period of follow-up observation):**

No one pathological change, as observed at operation, was inordinately associated with failure of closed reduction.

By far the highest incidence of successful results of open reduction was obtained in cases in which the operation was done in the second and third year of life.

The highest incidence of successful operation, as appraised immediately after the procedure, was in patients more than one year and less than six years of age.

Results as determined roentgenographically were in close agreement with results observed clinically.

IN SPITE OF EARLY, intelligent and persistent conservative treatment of congenital dislocation of the hip, failures of closed reduction still sometimes occur. Why is this so? What is the next step after failure becomes apparent? Should open reduction be done without delay or would it be better to wait? Is there an optimum time for operation? What are the results of operation?

In search of answers we reviewed the records of 42 patients operated upon at the Children's Hospital, Los Angeles, from 1934 to 1956. Thirty-three of the patients were female and nine male. In 21 cases both hips were dislocated, in 28 cases one hip; the total number of hips treated being 49. The average age at diagnosis was 23 months, 18 months in the unilateral group (since the deformity was more evident) and 32 months in the bilateral. The average age of patients at operation was 38 months; the lowest age was seven months and the highest almost ten years. There were no serious complications and no operative deaths.

Closed reduction was tried at least once and often several times before open operation was carried out. No harm from these procedures was observed. In most cases traction also preceded operation. The anterofemoral incision of Smith-Petersen gave adequate exposure.

The pathologic changes observed at operation were complex. All the structures of the hip were involved in varying degrees. There seemed to be no single pathological entity constantly associated with failure of closed reduction. Extracapsular conditions noted were adductor shortening, adhesions of capsule to ilium, pronounced anteversion of femoral neck, thickened redundant capsule and iliopsoas shortening. Conditions observed within the joint were of pericapital adhesions, abnormalities of the femoral head, annular constriction of capsule, enlarged ligamentum teres, inverted limbus, fibro-fatty tissue in the acetabulum and shallow acetabulum.

In 36 of 49 operations, the dislocation was successfully reduced. In the remaining 13 instances, dislocation occurred again immediately after operation or in the postoperative period before removal of the cast. From analysis of these 13 immediate failures it appeared that the age of the patient was an important factor—that the best chance for immediate successful operation was in patients over one year and under six years of age (see Chart 1).

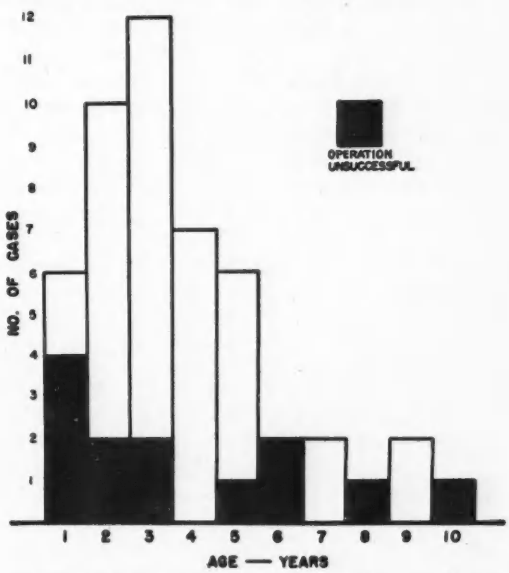

Chart 1.—The best chance of immediate successful operation appeared to be when the patient is over one year and under six years of age.

Submitted February 26, 1958.

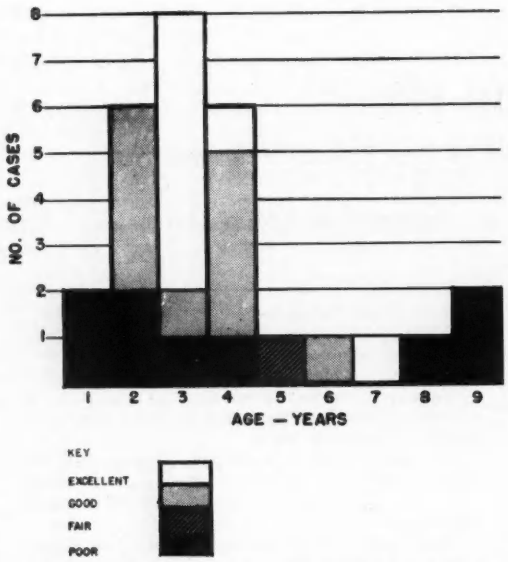

Chart 2.—The best results as observed in x-ray films occurred when operation was done in the third year of life.

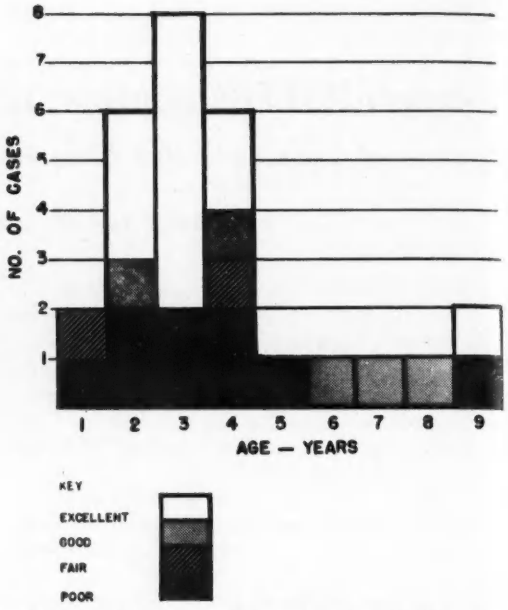

Chart 3.—The best clinical results occurred when operation was done in the second and third years of life.

Personal continuing observation was possible in 28 instances (including some cases in which both hips were involved). The average length of follow-up was more than five years and in no case less than 15 months. It is recognized that this is a short term follow-up.

Roentgenographically the results in eight cases (30 per cent) were excellent—the hip was of normal appearance. In ten cases (35 per cent) the result was good—slight deformity or dysplasia was noted in four cases (15 per cent) fair, subluxation being observed. In six cases (20 per cent) the operation was a failure, with either dislocation or fusion observable in x-ray films. The best results as determined by x-ray films were obtained in cases in which operation was done in the third year of life; the poorest in operations on patients under one year and over four years of age (see Chart 2).

Twelve of the patients (40 per cent) had no clinical complaints on follow-up examination. Six (20 per cent) had a good result, with slight discomfort or limp; one had a limp and pain. In nine cases (33 per cent) the operations were considered failures. The clinical results (Chart 3) paralleled the results as observed roentgenographically. The best clinical results occurred when operation was done in the second and third years of life.

436 North Roxbury Drive, Beverly Hills (Ilfeld).

Social Security Footnotes

EVERY ARGUMENT which has ever been used to support Social Security can be used with equal validity to support socialized medicine by changing a few words. If you ask for the one, prepare to get both. It is planned that way.

—From the Department of Public Relations, American Medical Association

"Hidden" Alcoholics

Medical Implications of Undiscovered Addiction

PAUL O'HOLLAREN, *M.D.*, and WAYNE M. WELLMAN, *Ph.D.*, Seattle

• **"Hidden alcoholics"—those who drink surreptitiously to keep their addiction secret—far outnumber the overt habitues of skid rows. The former rather than the latter should be considered "typical" alcoholics. Even though they have severe problems, they maintain fairly good employment stability and stability in marriage. Yet they steadily deteriorate.**

Often "hidden" alcoholics go to physicians because of symptoms referable to alcoholism but contrive to conceal their addiction and so make diagnosis difficult. Hence, physicians observing certain kinds of symptoms that cannot be attributed to a readily observable or demonstrable pathologic change should make searching inquiry as to the patient's drinking habits. For not until the proper diagnosis is made in such cases can there be hope of effective treatment.

THE "hidden alcoholic" is one who is able to conduct his life in such a manner as to maintain a reasonable semblance of normality in the areas of marital, social and occupational behavior. The general public thinks of an alcoholic as being quite unstable, unemployed and usually as being on skid row. The hidden alcoholic appears to be a reasonably stable person, employed and, for all outward purposes, able to conduct his life in a normal manner. The fact that he is able to keep his addiction hidden is due not only to public misunderstanding of alcoholism, but also to his surreptitious drinking pattern which is designed to enable him to drink without detection by friends and employers. The hidden alcoholic, aware of social values and pressures for economic security, will hide excessive drinking by drinking alone.

The most recent publication estimating the prevalence of alcoholism was made in 1953. The study indicated that there were 4,589,000 alcoholics in the United States, 4,884,000 men and 705,000 women.[2] This means that one of every 13 men (drinkers and non-drinkers) 20 years of age and older in the United States is an alcoholic. Not more than 7 per cent of these four and a half million alcoholics are on the skid rows of America. Only about 6 per cent of the total number of alcoholics is to be found seeking or receiving aid in out-patient clinics or hospitals or in affiliation with Alcoholics Anonymous.[8] Where are the remainder? The answer seems to be that they are "hidden"—hidden from general recognition.[8]

These statistical data were brought out through analyzing the marital and occupational stability of a sub-group of alcoholics at Shadel Hospital, Seattle,[8] and comparing the information about these alcoholics with similar information about other subgroups of alcoholics.

The patient sample from our experience used in this study consisted of 830 male former alcoholics, and the results were compared with studies completed in 1942 by Bacon,[1] in 1944 by Malzberg,[3] another study in 1948 by Malzberg[4] and a study completed in 1950 by Straus and Bacon.[7] Table 1 shows the comparisons made regarding the marital status of these male alcoholics.

It can be seen from this table that the patients studied had a relatively high degree of marital stability—less than in the general population, but certainly higher than might have been expected of alcoholics.

Occupational comparison was made between the patient sample of 830 male former alcoholics[8] and Straus' and Bacon's 1950 sample of 2,023 male alcoholics.[7] (See Table 2 for these comparisons.)

A large proportion of the alcoholics, who had a wide variety of job classifications, had occupational stability. More than 40 per cent of the patients in the group studied were engaged in top-level jobs, management and private ownership, while only 3 4/10 per cent were unemployed. Both the present group and that reported upon by Straus and Bacon represented a distinct alcoholic sub-group; it is not implied that they were representative of alcoholics in general. While it cannot be inferred that the same proportion of marital and occupational stability would be found in all alcoholics, it would seem logical to assume that a vast majority of alcoholics do have a considerable degree of stability in their marriages and on their jobs and that only a small proportion are on skid row, the remainder being in the "hidden" category. To say that hidden alcoholics have a high degree of marital and occupa-

Submitted March 27, 1958.

TABLE 1.—*Marital Status of Male Alcoholics in Five Studies

Marital Status	Comparative Data (in Per Cent) of Five Studies				
	Conn. Arrested Inebriates (1,023)†[1] (1,223)	New York Alcoholics With Psychosis[3] (516)	New York Alcoholics Without Psychosis[4] (309)	Clinic Patients (2,023)[7]	Sanatorium Patients (830)[8]
Single	53.1	36.4	22.0	17.0	7.8
Married	22.9	38.8	58.9	53.0	68.9
Separated	11.5	10.3	6.1	15.0	4.6
Divorced	7.5	3.4	6.1	12.0	16.5
Widowed	5.0	10.3	5.5	3.0	2.2
Unascertained	....	0.8	1.3	....	....
Totals	100.0	100.0	99.9	100.0	100.0

*Table 1 is reprinted from Wellman, Maxwell and O'Hollaren, "Private Hospital Alcoholic Patients and the Changing Conception of the 'Typical' Alcoholic," Quart. J. Stud. Alc., 1957, Vol. 18, No. 3, p. 391, by permission of the publisher and authors.[8]

†The numbers in parentheses are the numbers of patients observed in the studies.

TABLE 2.—*Occupational Classification of Clinic and Private Sanatorium Patients (in Per Cent)

	Clinic Patients[7]	Sanatorium Patients[8]
Major-minor official, manager, owner	14.0	40.9
Professional	6.0	6.5
Public servant	7.0	1.3
Clerical	6.0	2.6
Salesman	10.0	9.7
Skilled labor	23.0	9.5
Semi-skilled labor	16.0	17.6
Unskilled labor	17.0	5.0
Other	1.0	6.9†
Totals	100.0	100.0

*Table 2 is reprinted from Wellman, Maxwell and O'Hollaren, "Private Hospital Alcoholic Patients and the Changing Conception of the 'Typical' Alcoholic," Quart. J. Stud. Alc., 1957, Vol. 18, No. 3, p. 395, by permission of the publisher and authors.[8]

†Includes retired (1.9 per cent), unemployed (3.4 per cent), and no response (1.6 per cent).

tional stability does not imply that they do not have difficulties in both areas. The implication is only that they do not evidence this instability to the degree that has been considered characteristic of typical alcoholics.

An alcoholic of this type is able to conceal his drinking from employers, friends and oftentimes even his family physician. He may complain of various symptoms that are a direct result of excessive drinking, yet in no way indicate to the physician the extent of his addiction.

IMPLICATIONS TO THE MEDICAL PROFESSION

In light of data on the prevalence of alcoholism and the recent indications of drastic change in the general description of the typical alcoholic, it seems logical to point out the following factors:

1. Alcoholism is a major medical problem.

2. Approximately 6 per cent of the total alcoholic population is receiving treatment of some type. It is certain that the vast majority of alcoholics have physiological symptoms as a result of their alcoholism. Many of them must be under medical care for these symptoms but have not yet been discovered to be alcoholics. Physicians are treating alcoholics in many cases without the benefit of realizing they are alcoholics.

3. Because of the "hidden" alcoholic's compulsive need to keep his addiction hidden, he will usually not report to a physician the full extent of his drinking or the effect that alcohol has on his general health. In such cases, the importance of obtaining an accurate history of the patient's characteristic response to alcohol cannot be overemphasized. Where hidden alcoholism is suspected, the physician should carefully check the history of the patient with the spouse or some other member of the immediate family.

If a positive history of hidden alcoholism is obtained, the patient should be confronted with the diagnosis and advised to face the problem and the need for treatment.

4. Because of the popular misconception of the "typical" alcoholic, physicians are failing in many cases to recognize alcoholism as the underlying cause of physical symptoms.

Hence it would seem helpful to review symptoms that characteristically arise as a result of excessive drinking.

CHARACTERISTIC PHYSICAL CHANGES

The facial appearance is the first area affected overtly by alcoholism. The capillaries around the conjunctiva of the eye become engorged.[5] However, the physician may not associate this condition with alcoholism, since in most instances an alcoholic who goes to a physician for treatment of illness will take care not to appear under the influence of alcohol. More commonly, a puffy, edematous appearance is noted in the skin and subcutaneous tissue of the face and forehead; and, as alcoholism continues and there are repeated episodes of drinking, this facial edema eventually leads to the development of deep grooving at the corners of the eyes as well as

throughout the skin of the forehead, face and cheeks.[5] In persons with fair complexion, flushing of the skin is common, with pronounced hyperemia which after a long period develops into "whiskey nose."[5] Edema may also be observed in the nasal mucous membrane, the posterior pharynx and extending into the larynx and the vocal cords—the latter causing the hoarseness so prevalent in overt alcoholism.

Alcoholic tremor is one of the most common of physical changes associated with prolonged excessive drinking; and the tremor may persist long after the patient has ceased to drink. The tremor is aggravated when the patients attempts to stop drinking and is temporarily relieved by further ingestion of alcohol.

There seem to be no physical changes in the heart or lungs or in the abdomen or lower extremities which could be considered typical of alcoholism.[5] However, a bounding pulse and moderately severe tachycardia is very common during withdrawal from alcohol.

Perhaps the most common form of pathologic change in the stomach is alcoholic gastritis, which is manifested by loss of appetite, frequent periods of nausea and occasional vomiting following a drinking episode. Blood in the vomitus, gross or occult, is often found. Evidence of irritation of the lower intestinal tract may be noted—either obstipation or severe diarrhea.

DISCUSSION

"Only by gathering more information as to why some individuals are more sensitive to alcohol than their social drinking friends, and by developing techniques and indices whereby such individuals can be detected and singled out from others, can we hope to save many persons from reaching the advanced stages of alcoholism."[6]

Until such a diagnostic tool is available, the medical profession should remain constantly alert to the scope and characteristics of alcoholism so that a more accurate medical diagnosis can be made and treatment rendered to the "hidden" alcoholic.

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Preparation for Disaster

What the Individual Medical Society Can Do

WAYNE CHESBRO, *M.D.*, Berkeley

• **Standardization of county medical society plans for dealing with casualties in disasters would greatly facilitate integration with the state Civil Defense organization.**

Without such plans there can be no hope of coping with the great number of casualties that would come should this area be attacked.

The plan of the Alameda-Contra Costa County Medical Association herein described, has been tested in actual emergency and has been found effective.

TODAY, perhaps as never before, the medical profession must prepare adequate medical and health services for disaster. Such services are our responsibility to the communities and the counties we serve.

The misconception that "because we are too small to be a target city, there is no need for effort in disaster planning" must be rejected. No hamlet or metropolis is immune to disaster created by nature's forces or caused by rapid transport by rail, highway or air. In addition, we must recognize the potential disaster problems created by suburban industrial expansion and its most recent family member with its particular health problems—the nuclear reactor. Even epidemic disease, despite all our efforts with antibiotics and immunization procedures, still holds the threat of a mutant that can bring about disaster for thousands.

These points are mentioned so that medical societies of limited membership serving small communities will recognize the necessity for disaster planning. (Witness the worthwhile effort in disaster preplanning of the small parish medical society of southern Louisiana which delivered medical care to all under extremely adverse conditions during the devastating hurricane "Audrey" last summer.)

A medical society in order to adequately prepare for disaster must follow, I believe, certain basic steps:

1. *The appointment of a Disaster Committee.*

The area which a society serves and the membership of a society may determine the appropriate number appointed to this committee. Perhaps a small group of five to begin with, picked for genuine interest in their assignment. It will help if some of the members have had World War II or Korean War combat experience, for there is no better certification for medical disaster work than that of actual participation.

2. *Include local Civil Defense officials.*

One or more active public-appointed civil defense officials (local or county coordinators) as ex-officio members of the committee should be included. Thus an immediate and permanent working liaison is established between existent civil defense planning and resources and medical society planning.

3. *Objective.*

It will be the objective of the society through this committee to provide adequate medical and health services disaster planning for all of the communities it serves. This can be accomplished by the following:

(a) The stimulation of all hospital staffs to designate disaster committees.

(b) The formulation of disaster planning for large-scale local disaster on a command-coordination level of the society for all the area which the society serves.

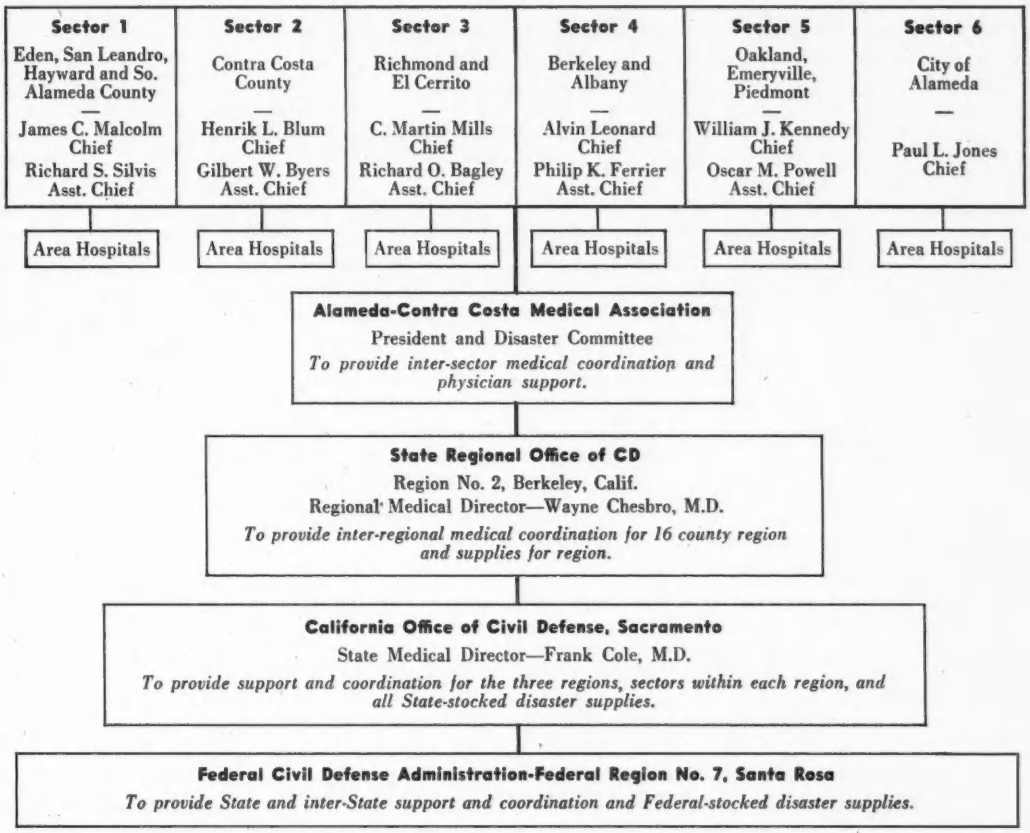
(c) The formulation of disaster planning for total disaster based on inter-society, state medical association and civil disaster planning on a local area, state and national level.

We would do well to take each of these segments of the objective for discussion in turn and define them more clearly. First, the Hospital Disaster Committee. Each hospital staff should appoint such a committee, which should immediately survey the hospital relative to its physical and material resources and its possible expanded bed capacity. The availability of the staff at all hours should be considered and an estimate should be made of the numbers of additional physicians and nurses that would be needed in event of expansion to the greatest possible number of beds. A copy of these data should be filed with the society's Disaster Command Post. A walk through the hospital is often enough to determine the most suitable unloading area, triage and first aid areas, the availability of central supply, the proper pathway and policing to maintain patient flow, the adequacy of communication and informa-

Submitted January 2, 1958.

Chairman, Alameda-Contra Costa Medical Association Disaster Committee.

Chart 1.—Integration of the six Alameda-Contra Costa Sectors with over-all disaster organization


Sector 1
Eden, San Leandro, Hayward and So. Alameda County
James C. Malcolm Chief
Richard S. Silvis Asst. Chief
Sector 2
Contra Costa County
Henrik L. Blum Chief
Gilbert W. Byers Asst. Chief
Sector 3
Richmond and El Cerrito
C. Martin Mills Chief
Richard O. Bagley Asst. Chief
Sector 4
Berkeley and Albany
Alvin Leonard Chief
Philip K. Ferrier Asst. Chief
Sector 5
Oakland, Emeryville, Piedmont
William J. Kennedy Chief
Oscar M. Powell Asst. Chief
Sector 6
City of Alameda
Paul L. Jones Chief
Area Hospitals
Area Hospitals
Area Hospitals
Area Hospitals
Area Hospitals
Area Hospitals
Alameda-Contra Costa Medical Association
President and Disaster Committee
To provide inter-sector medical coordination and physician support.
State Regional Office of CD
Region No. 2, Berkeley, Calif.
Regional Medical Director—Wayne Chesbro, M.D.
To provide inter-regional medical coordination for 16 county region and supplies for region.
California Office of Civil Defense, Sacramento
State Medical Director—Frank Cole, M.D.
To provide support and coordination for the three regions, sectors within each region, and all State-stocked disaster supplies.
Federal Civil Defense Administration-Federal Region No. 7, Santa Rosa
To provide State and inter-State support and coordination and Federal-stocked disaster supplies.

tion centers, the alerting schedule, the adequacy of laboratory facilities, improvised blood bank area and morgue facilities, and, of course, the adequacy of the physical plant of the hospital itself as to water supply, food, auxiliary power and heat. I would emphasize the foregoing strongly. The hospital facilities should be reviewed and all members of the Disaster Committee should be familiar with them. Disaster might strike before the disaster plan is written.

Following such a survey the committee will do well to write out a simple disaster plan involving three phases:

1. Hospital disaster planning for disaster within the hospital itself. (Has your hospital ever carried out even a simple fire drill?)

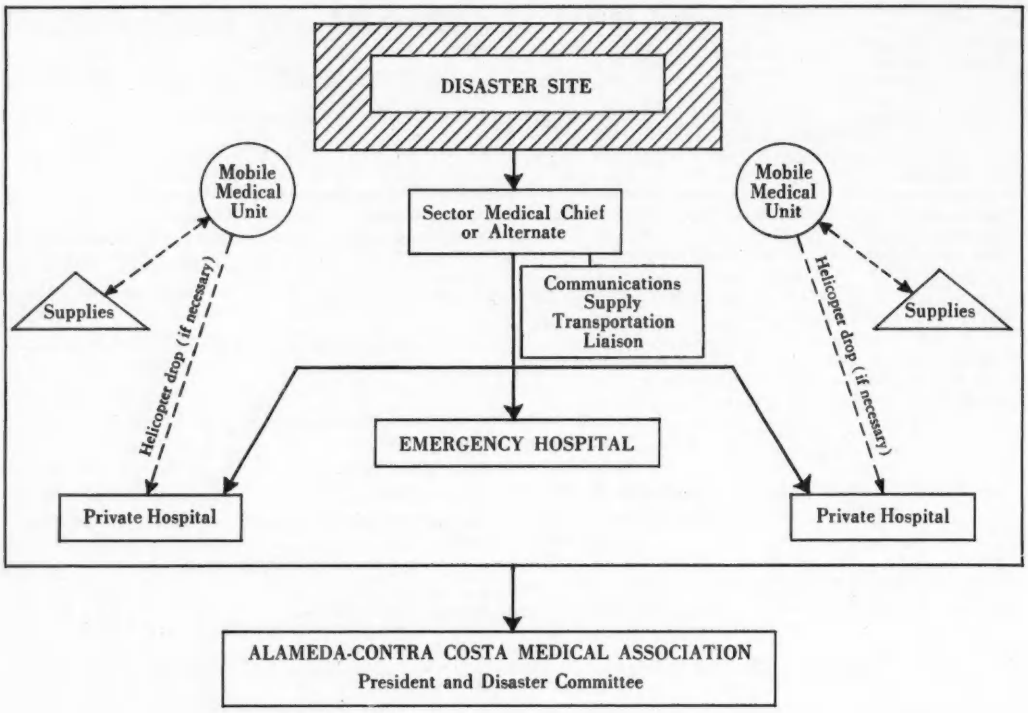
2. Hospital disaster planning for large-scale local disaster.

3. Hospital disaster planning for total disaster in which the hospital may have to cope with one of two situations: Either it remains standing and functional or it has moved its facilities and personnel to a peripheral area and must now reassemble as a group to work under entirely different circumstances than previously existed.

It is the duty of the medical society Disaster Committee, whose members are also members of the respective hospital staffs, to stimulate such a program and work with hospital Disaster Committee members. Too often hospital planning will collapse because of lack of interest. Interest can be maintained by medical society-hospital sector trial exercises. After adequate trial exercises have been carried out and a monitor from the medical society has found the hospital has adequate personnel and facilities to meet disaster, the society should give the hospital a certificate to that effect.

The second objective of the medical society should be to formulate disaster planning for large scale disaster in the area encompassed by the society, especially to delineate functions of the medical society at the command and coordination level for use in times of disaster. The existing civil defense organization is based on self help and mutual support; hence this concept should be carried out in all plans,

Chart 2.—Organization applicable to each of the six disaster sectors of Alameda-Contra Costa counties in a local disaster



No medical personnel will move into a disaster area unless requested by that Sector's Medical Chief or Alternate at the disaster site.

The Sector Medical Chief or Alternate is in full command of all medical services in the Sector in which the disaster occurs.

Helicopter service for medical use may be ordered only by the Sector Chief or Alternate. Such order must be transmitted directly to the Chairman of the ACCMA Disaster Committee at Association Headquarters.

In event of disaster in Alameda or Contra Costa county, a Mobile Communications Unit from the Oakland CD Office is immediately attached to the ACCMA Headquarters for direct communication with the Medical Chief or Alternate on the disaster site.

from the smallest unit upward, in all planning within the society's jurisdiction.

In general each county society, with its own geographical peculiarities considered, would do well to divide its area into sectors, each sector having a unit able to cope independently with the immediate disaster within its area, yet able to obtain (and to give) through the society Disaster Committee command post, mutual aid of other sectors and to have access to additional resources on request by the medical chief of the sector. (Chart 1 shows the divisions and the chain of communication for the Alameda-Contra Costa County Medical Association.)

Coping with the medical aspects of the immediate effect of disaster within a sector of the society's jurisdiction is directed by the sector chief of medical and health service, whose duties embrace the local coordination of all medical resources within his jurisdiction in order that casualties can be handled by an effective authority. He shall represent the president of the medical society at the disaster site and shall be sufficiently experienced by study and planning to know all the medical resources within his command. He shall be the authority for the transmittal of requests for additional physicians, nurses and medical supplies to the disaster site, and he shall transmit such requests as well as requests for additional hospital beds outside his sector to the medical society command post for disposition. The sector chief and his alternates will be appointed by the medical society with the concurrence of the chiefs of the Hospital Disaster Committees in each sector. (Chart 2 shows the plan for Alameda-Contra Costa County.)

In order to form an effective unit for disaster preparedness, there must be close cooperation and planning between the sector chief, his alternates and all medical facilities and civil defense organizations in his jurisdiction.

A medical society must define the criteria to be observed in determining when to sound an alert for a large-scale local disaster. In the Alameda-Contra Costa County program it has been agreed that a casualty load of 25 cases of a kind requiring treatment in a hospital is sufficient reason to alert the headquarters command post of the medical society, in addition to notification of functionaries in lower echelons. In such instances the alerting procedure is as follows:

1. The police of the respective city area, or representative of the sheriff's office or highway patrol at the scene of the disaster shall immediately

(a) Make a rough estimate as to the number of casualties and the major contributing force, such as explosion, fire, crash, immersion. This information is immediately relayed to the central radio control room of the police force concerned.

2. The central radio control room

(a) Requests dispatch of an estimated number of ambulances to the scene of disaster.

(b) Notifies the appropriate sector chief of the Medical and Health Services or one of his five alternates.

(c) Notifies the hospital within the sector jurisdiction.

(d) Notifies the County Medical Society headquarters command post.

There can be many variations of the basic plan here outlined, as long as a definite chain of authority is designated and responsibilities assumed. Two disasters have been dealt with under the Alameda-Contra Costa plan, and it was (to use a numerical gauge) at least 85 per cent effective.

The third objective of a medical society—namely, planning for total disaster—is more difficult. However, proper study and conference with Civil Defense officials will bring about at least a current working knowledge of the basic concepts for survival. It is well recognized that our medical resources of today would be greatly limited in case of nuclear attack. Yet planning will help toward making the best possible use of the reduced resources for dealing with mass casualties.

Medical planning against total disaster, especially here in California, cannot hope to cope with the aftermath problem until such time as every county medical society has mastered the basic problems of disaster preparedness for large-scale local disaster. With total participation of all medical societies in adequate disaster planning, followed by coordination of these facilities as a whole, we can at least offer some hope for medical care after a total disaster. With total participation of medical societies in planning against disaster, we can have a uniform plan of action, operating under our own California Medical Association, whose function should be the coordination of maximum medical effort with existing Civil Defense organizations. However, until all county medical societies have adequate disaster planning, any planning done by the Medical Service of the California Disaster Office must be largely theoretical.

Hence it is urgent that all county societies at least enter the phase of pre-disaster planning, which will lead to the planning and training that will add the medical factors to other means for survival (in addition to the armaments of defense) should this nation be attacked with nuclear weapons.

Alameda-Contra Costa Medical Association, 6230 Claremont Avenue, Oakland 18.

Social Security Footnotes

HOW HIGH will the social security tax go? No one knows. But in South America some countries are paying tax rates as high as 25 per cent of payroll. In France, the tax rate is 35 per cent of much of their payroll and is one of the principal reasons for the failure of the French economy to make a postwar comeback.

—From the Department of Public Relations, American Medical Association

Milk-Alkali Syndrome, with Jaundice And Tetany

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A NEW CLINICAL ENTITY, simulating hyperparathyroidism, was reported in 1949 by Burnett and coworkers.[5] This condition, which has come to be known as the "milk-alkali syndrome," follows prolonged and excessive consumption of milk and absorbable alkali, and is characterized by hypercalcemia (generally without hypercalciuria or hypophosphatemia), calcinosis resembling band keratitis and renal insufficiency. Although the occurrence of this syndrome may be more common than is generally realized, only 39 cases have been reported. Because of the prominence of concomitant complaints referable to gastric ulcer, symptoms of the milk-alkali syndrome could seem of secondary importance to those of the gastrointestinal tract. Nausea and vomiting may increase, accompanied by anorexia, loss of weight, constipation, muscular weakness, pruritus, polyuria and polydipsia. Upon physical examination, dehydration, pallor, malnutrition and hypertension may be noted; and occasionally pruritic cutaneous nodules and skin pigmentation are observed. Although calcific deposits can be widespread, as in any hypercalcemic state, the presence of ocular calcinosis is a feature found in nearly all the reported cases of milk-alkali syndrome. The lesions of the eye are of two types. The corneal lesion consists of hazy grayish deposits, running concentrically with the limbus on either the nasal or temporal side, or both. In the conjunctiva, small glass-like particles may be found in the palpebral fissure area.[28]

The case reported here is, with a few exceptions, characteristic, and serves to demonstrate the difficulties that may arise in diagnosis.

REPORT OF A CASE

A 50-year-old white man was admitted to hospital on August 19, 1956, with main complaint of vomiting of five days' duration. One week before, he had been given prednisone because of complaint of pain in the lower back. Increasing weakness, mental confusion and muscular twitching was reported.

For more than 15 years the patient had had postprandial and nocturnal epigastric pain, distention, eructation and sour regurgitation, which was relieved by taking 2 tablespoonsful of sodium bicarbonate. During the preceding six months, he had noted increasing frequency and nocturia. For relief of gastrointestinal distress he had drunk three to four quarts of milk daily and three 8-ounce boxes of sodium bicarbonate weekly.

Upon physical examination the patient was observed to be disoriented and apparently chronically ill. The extremities were twitching and they moved in a coarsely tremulous manner. The skin was slightly icteric with no excoriations. The blood pressure was 180/110 mm. of mercury. The sclerae were icteric, and there were granular deposits concentric with the limbus on both the nasal and temporal sides of the eyes. The edge of the liver, palpated 3 cm. below the right costal margin, was not tender. Besides the muscle twitching, Trousseau's and Chvostek's signs were present and deep tendon reflexes were increased.

The urine had a specific gravity of 1.012 to 1.014, an alkaline reaction, a 2-plus to 4-plus reaction to a test for albumin, 5 to 8 leukocytes per high power field, occasional erythrocytes, and granular and hyaline casts in the sediment. The hematocrit was 45 per cent. Leukocytes numbered 17,600 per cu. mm.—81 per cent polymorphonuclear cells. The serum sodium was 153 mEq. per liter, carbon dioxide was 46 mEq., potassium 3.9 mEq. and chloride 65 mEq. Blood nonprotein nitrogen 44 mg. per 100 cc. and total protein content 7.3 gm. per 100 cc.—albumin 4.8 gm. and globulin 2.5 gm. The van den Berg reaction totaled 4.8 mg. per 100 cc., 2.1 mg. being prompt and 2.7 mg. delayed. The alkaline phosphatase was 1.5 Bodansky units per 100 cc., cholesterol content 230 mg. per 100 cc. and thymol turbidity 1.7 units.

After the administration of intravenous fluids corrected the hypopotassemia and hypochloremia, vomiting diminished and there was gradual alleviation of the neuromuscular irritability. X-ray films of the upper gastrointestinal tract taken on the fifth day in hospital showed an extensively dilated stomach, emptying poorly. The duodenum, barely made out, appeared deformed. In a second roentgeno-

Submitted March 5, 1958.

graphic examination three days later a small duodenal ulcer crater near the superior recess was observed.

Administration of fluids parenterally was continued, and by August 25 the serum sodium was 138 mEq., potassium 4.8 mEq., blood urea 57 mg. per 100 cc., serum calcium 12.5 mg. per 100 cc. and phosphorus 3.6 mg. per 100 cc. A 24-hour specimen of urine on August 28 contained 320 mg. of calcium.

Because normal alimentary function did not resume, subtotal gastrectomy of the Hofmeister type was done on August 30. The stomach was dilated and there was pronounced scarring around the first portion and narrowing of the second portion of the duodenum. Induration surrounded an ulcer crater that was eroding into the head of the pancreas. The porta hepatis was severely inflamed near the duodenum. The common duct was thickened and surrounded by inflammatory adenomatous tissue. The liver and gallbladder appeared normal. There was so dense a web of adhesions of the first portion of the duodenum that it was necessary to leave a portion of the ulcer crater on the head of the pancreas.

After the operation a diet low in calcium and phosphorus was prescribed. The jaundice vanished rapidly, and at the time of discharge from the hospital on September 20 the urine had a specific gravity of 1.027, 2-plus reaction for albumin, 2 to 4 leukocytes and 1 to 2 erythrocytes per high power field and 1 to 2 hyaline and 3 to 4 granular casts in the sediment. Blood urea content per 100 cc. was 12 mg., calcium 11.4 mg. and phosphorus 3.4 mg.

The patient had no further gastrointestinal distress and no further frequency and nocturia after operation. He used no alkalis and drank a quart of milk daily. Serum calcium a year after the operation was 9.6 mg. per 100 cc., phosphorus content 3.4 mg. and blood urea 11.0 mg. A concentrated morning specimen of urine had specific gravity of 1.035, an acid reaction and a normal Sulkowitch response. It contained no albumin, cells or casts. The blood pressure was 138/86 mm. of mercury. The ocular deposits remained unchanged.

DISCUSSION

Hypercalcemia and the accompanying calcinosis is not peculiar to the milk-alkali syndrome, yet hypercalciuria is not generally found. The fact that urinary excretion is not excessive suggests some interference with the renal excretory mechanism. Alkalosis, almost invariably present, probably plays the most important role in initiating the kidney impairment. It has been demonstrated that urinary calcium clearance is diminished by alkali administration,[1] and Burnett and his associates[3] showed significant reduction of renal clearance mechanisms resulting from alkalosis subsequent to pyloric obstruction. Upon correction of the alkalosis, decided improvement was manifested, leading to the suggestion that this renal insufficiency resembles, in some respects, lower nephron nephrosis. Renal failure associated with hypercalcemia has been observed in hyperparathyroidism, myelomatosis, vitamin D intoxication, skeletal immobilization, sacroidosis and carcinomatosis with generalized bone involvement.[1,5,14] Yet the hypercalcemia and renal failure in the milk-alkali syndrome will not likely arise from excessive calcium intake alone unless alkalosis is also present.[7]

The kidney deterioration may be furthered by the hypokalemia frequently associated with alkalosis.[23] In addition to the gastrointestinal loss, the high serum bicarbonate facilitates the transfer of potassium from the intracellular compartment and the entrance of sodium into the cell.[8] Additional potassium loss is incurred by the inability of an already impaired kidney to conserve potassium.[4] In a report of one other case in which muscular twitching was present,[29] the author expressed the belief that hypokalemia was crucial in the causation of the metabolic alkalosis and the genesis of the milk-alkali syndrome.

Elevation of the pH, of serum sodium and potassium ions may result in heightened muscle excitation. Neuromuscular irritability may also be induced by depression of serum calcium and magnesium.[11,12,13] In the case here reported, the elevated calcium, as well as the depressed potassium, probably exerted a protective influence against tetany. However, the alkalosis may have caused a decrease in the ionized calcium (and thereby a partial nullification of the calcium barrier) and may have been profound enough in itself to cause tetany.

Confusion in the differentiation from primary renal disorders is to be anticipated in this syndrome, yet infrequently in cases reported is there suggestive evidence of previous renal disease.[5,16,24] The changes expected with chronic nephritis—metabolic acidosis, hypocalcemia and hyperphosphatemia—are not present. Further, the rapid reversal of the azotemia and the renal failure pattern as soon as the ingestion of the alkali and milk is discontinued, probably gives the most impressive clue to the proper diagnosis of this syndrome. The serum calcium may fall to normal levels within one to two weeks.[24] In hyperparathyroidism therapy also may bring about improvement in renal function, still, in most instances, the hypercalcemia and hypercalciuria persist.

Several cases in which there was hypercalciuria, as in the one here presented, with other features pointing to Burnett's syndrome have been reported.[24,26] In those cases exploration was carried out for parathyroid adenoma, and no tumor was discovered. Subsequent discontinuance of ingestion of milk and alkali caused the chemical contents of the blood to become normal and hypercalciuria to abate. No explanation is apparent as to why these atypical cases exist, and whether, indeed, they are cases of milk-alkali syndrome. Hypercalciuria seems the core of the puzzle.

It has been suggested that the intravenous calcium loading test[15] may aid in diagnosis of borderline cases.[19,26] Information is very limited in regard to observations of the results of this test in cases of

milk-alkali syndrome; hence significant conclusions as to its value in differential diagnosis are not yet established.

Reduction of both high serum calcium and high urinary calcium excretion can be effected in hyperparathyroidism by phosphate feeding and retention.[1,2] It is suggested that, in the Burnett syndrome, a sequence may result from ingestion of large amounts of alkali and milk. Caused by the high lactic content of inorganic phosphate, a diminution of calciuria will ensue as in renal failure. However, the constant intake of great amounts of calcium in Sippy powders and in milk is not defrayed to pay the deficit balance in bone disease as in hyperparathyroidism, and since it cannot be excreted, it is reflected by a rise in serum calcium and perhaps metastatic calcification. This produces the usual clinical pattern of milk-alkali syndrome.

With the above suggested mechanism operative, persistent phosphate consumption and retention with prolonged stimulation of the parathyroid glands may eventually lead to partial parathyroid gland exhaustion. Reflecting the hypoparathyroid response to an elevated calcium load,[12] an increasing hypercalciuria may become manifest, simulating the atypical cases of milk-alkali syndrome.

Study concerning the quantitative and temporal relationship of the alkali, phosphate and calcium consumption in contest, more frequent application of the Howard test in such circumstances, and measurement of tubular reabsorption of phosphorus, may help discern the cause of the defective handling of calcium in the Burnett syndrome.

In the present case jaundice was a perplexing feature early in the hospital course and caused concern as to the generation of a fulminant hepatitis. At operation, however, it was observed that inflammation and edema of the pancreas, resulting from the posteriorly penetrating duodenal ulcer was causing compression of the common bile duct. Jaundice may also be caused by inflammation of the biliary papilla secondary to duodenal ulcer, but is less frequent.[27] The pathogenic tempo of the ulcer may have been heightened by the use of prednisone, which probably, however, had little effect on the electrolyte changes.[9,11]

SUMMARY

The clinical and laboratory features of a case of milk-alkali syndrome are presented. The usual findings of hypercalcemia, alkalosis, renal insufficiency, azotemia and ocular calcinosis following prolonged ingestion of milk and absorbable alkali are reviewed. Despite early hypercalciuria, the restoration, upon treatment, of normal serum electrolyte levels and renal function serve to exclude other diagnoses. Clinical problems created by the additional presence of jaundice and tetany are discussed.

The most significant characteristics of the so-called milk-alkali syndrome still appear to be a history of milk and alkali intake, alkalosis, azotemia and a rapid restitution of normal status upon discontinuance of ingestion of milk and alkali.

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ACKNOWLEDGMENT: The author is indebted to Mrs. Elizabeth Smith, of the Santa Clara County Hospital Medical Library, for her aid in the preparation of this report.

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Gastric Diverticulum with Perforation And Generalized Peritonitis

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INTRAMURAL BENIGN TUMORS of the stomach, such as leiomyomas, are likely to undergo ulceration at the center. Continuation of this degenerative process eventually results in the formation of a pouch or diverticular-like process.[4]

Diverticula of the stomach, whether true or acquired, are uncommon. In 11,828 roentgenologic examinations of the stomach Cheney and Newell[2] noted only two. Rivers, Stevens and Kirklin[6] observed only four gastric diverticula in the course of 3,662 routine necropsies. Rupture of a gastric diverticulum is extremely uncommon. To date only four cases have been reported.[1,3,5]

REPORT OF A CASE

A married white woman, 78 years of age, was admitted to hospital on the afternoon of February 4, 1957, with severe abdominal pains and vomiting which came on two hours after a breakfast of pancakes that same morning. In the past the patient had felt generally well except for chronic constipation and some bloating after meals.

Although the patient seemed exhausted, feverish, and dehydrated she was calm and rational and complained only of pain in the abdomen. The temperature was 103°F., the pulse rate 100 and the blood pressure 100/60 mm. of mercury.

There was a hard mass in the upper, outer quadrant of the left breast consistent with carcinoma. The abdomen was moderately distended and rigid, and bowel sounds were diminished.

Leukocytes numbered 11,000 per cu. mm. of blood —72 per cent neutrophils, 24 per cent lymphocytes and 4 per cent monocytes. Results of urinalysis were within normal limits. The hemoglobin content was 13.85 grams per 100 cc. of blood and erythrocytes numbered 5 million per cu. mm.

Submitted April 22, 1958.

Roentgenograms of the abdomen with the patient in the upright position showed no free air under the diaphragm and no dilated loops of large or small

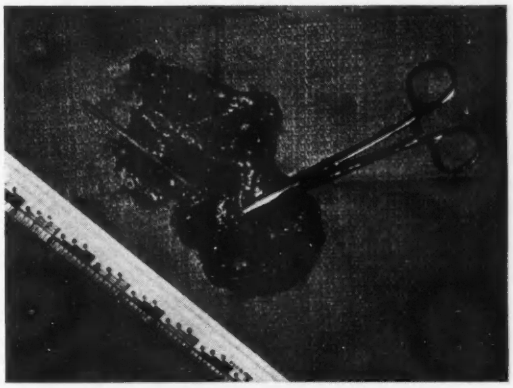

Figure 1.—Stomach lumen open to show probe passing into diverticular-like sac.

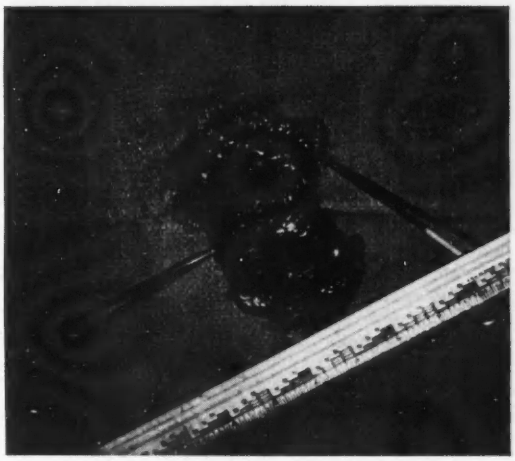

Figure 2.—Specimen showing sac in area below hemostats projecting downward from resected portion of stomach.

bowel. There was no roentgenographic evidence of metastasis to the chest.

The immediate impressions were acute cholecystitis and cancer of the left breast with possible metastasis to the abdominal organs.

Initial treatment consisted of intravenous infusion of fluids to correct dehydration and gastric intubation to decrease vomiting and distention.

The next day the patient's condition was worse. There was board-like rigidity throughout the entire abdomen and generalized rebound tenderness. It was felt an intra-abdominal catastrophe had occurred, with ensuing peritonitis, and that operation was imperative. However, it was not until evening that the patient grudgingly consented to operation, primarily because of religious tenets forbidding surgical intervention in the treatment of an illness.

A right paramedian incision was made in the abdomen. Immediately, foul-smelling purulent fluid welled up into the wound. Although the fluid occupied all quadrants of the abdominal cavity it was noted to be pouring forth through a small gap in the mid-transverse mesocolon. An approach was then made into the lesser abdominal cavity through the transverse mesocolon. A necrotic-appearing sac about 8 cm. long and 6 cm. in diameter with a large rent in its neck arose from the posterior surface of the stomach near the cardia. The sac communicated with the lumen of the stomach. Because the sac was so large, a segmental gastric resection was done, the sac being incorporated in the portion removed (see Figures 1 and 2). The postoperative course was uneventful and the patient was dismissed from the hospital on the eleventh postoperative day. The pathological diagnosis of the specimen was ulcerated leiomyoma of the stomach with peritonitis.

Later the patient had a simple mastectomy for the breast tumor mass, which was adenocarcinoma. Postoperative x-ray therapy was given. At the time of last examination, a year later, the patient was in good health.

COMMENT

In routine exploration a surgeon is quite likely to overlook a gastric diverticulum unless the stomach is examined posteriorly through the transverse mesocolon or lesser omentum. Reoperation was reported necessary in a number of cases in which this examination was not done initially.[7] Various methods of treatment have been used, from segmental resection or amputation to simple invagination, depending upon the operative findings. Present treatment appears to favor simple excision of the diverticulum with repair of the defect in the stomach wall.[8]

SUMMARY

A case in which a leiomyoma had formed a gastric diverticulum with subsequent rupture and peritonitis has been presented.

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Bleeding Esophageal Varices Due to Occult Cirrhosis of the Liver

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RECENTLY a patient was studied at the Veterans Administration Hospital, Long Beach, because of bleeding esophageal varices. Results of all liver function tests were essentially normal, yet at operation for a portocaval shunt, cirrhosis of the liver was observed.

It is commonly assumed that if liver function as measured by a battery of tests is found to be normal, there can be no significant cirrhosis, especially of the degree which causes esophageal varices. Linton,[3] speaking of liver function tests done in the presence of esophageal varices, said: "When the values of these tests are all normal, the site of the portal bed block is extrahepatic and lies within the portal venous system." That normal liver function does not always rule out the liver as the cause of bleeding esophageal varices is shown by the following case.

REPORT OF A CASE

In mid-October, 1956, the patient first noticed black stools. There were no other gastrointestinal symptoms. Unaware of the significance of black feces, the patient did not consult a physician until he became very weak. He then entered a hospital. The hemoglobin content at that time was 6 gm. per 100 cc. An x-ray study of the upper gastrointestinal tract showed esophageal varices. The patient received several blood transfusions. Six weeks later the stools became black again and the patient reentered the hospital. The hemoglobin content was 7.8 gm. per 100 cc. and again whole blood was administered.

From the Gastroenterology Section of the Medical Service, Veterans Administration Hospital, Long Beach 4.

Submitted February 28, 1958.

Results of studies during the two periods in hospital showed essentially normal liver function: Thymol turbidity 0.8 units, cephalin flocculation 1 plus in 48 hours, bromsulphthalein retention 6.5 per cent after 30 minutes, serum albumin content 4.5 gm. and globulin 1.8 gm. per 100 cc., cholesterol 100 mg. per 100 cc. and prothrombin time 80 per cent of normal.

In late December, 1956, the patient entered the Veterans Administration Hospital at Long Beach for further study.

Upon physical examination the patient was noted to be muscular, well nourished and appearing several years younger than his stated age of 37. There was abundant growth of hair on his body, especially on the chest and extremities. No spider angiomata were seen. There was no jaundice. The thyroid gland was not enlarged. No abnormalities in the heart and lungs were noted. The liver was felt at the right costal margin on inspiration and was not tender. The spleen was easily felt two fingerbreadths below the left costal margin. There was no visible venous distention on the chest or abdomen. There was no ascites and no peripheral edema.

For a period of four years the patient had worked for a beer distributing company and there daily drank as many as four bottles of beer, which was free. At no time was he in the habit of going without meals. After leaving the beer company, the patient went to work for a milk company and continued in this employment for the two years preceding admittance to hospital. There he received free milk and stopped drinking beer. The patient was married and had a good work record. In World War II he had been stationed in Alaska. He gave no history of having infectious hepatitis, but cases occurred in the area in which he was stationed.

The hemoglobin content was 15.2 gm. per 100 cc. Leukocytes numbered 7,500 per cu. mm.—78 per cent polymorphonuclear, 17 per cent lymphocytes, 4 per cent monocytes and 1 per cent eosinophils. The sedimentation rate was 1 mm. in one hour and the hematocrit 49 per cent. A serologic test was negative for syphilis. Urinalysis was within normal limits. There was no bile in the urine and the urobilinogen content was 0.34 mg. per 100 cc. The stools showed only cysts of Endolimax nana.

Results of liver function tests were as follows:

	Jan. 3	Jan. 14	Jan. 22	Jan. 25
Albumin: Globulin ratio (gm. per 100 cc.)	.....	4.8:2.0	4.9:1.8	.....
Total bilirubin (mg. per 100 cc.)	0.4	0.2	0.1	.....
Alkaline phosphatase (units)	5	4.8	12.3	.....
Cephalin flocculation	0/0	0/0	0/0	.....
Thymol turbidity (units)	1.3	2.5	2.5	.....
Prothrombin time	.....	70%	70%	.....
Bromsulphthalein retention	.....	.....	.....	3%

During his stay at the Veterans Administration Hospital the patient had no recurrence of gastrointestinal bleeding. Roentgenographic and esophagoscopic examination reconfirmed the presence of varices of the esophagus. Biopsy of liver tissue removed by insertion of a Vim-Silverman needle through the lower right anterolateral chest was unsatisfactory because the specimen was too small. However, the tissue that was obtained was interpreted as being normal. On February 12, 1957, a portocaval shunt was performed. Preoperatively a percutaneous splenoportogram was done. Generalized dilatation of the portal system was noted and there was no evidence of portal vein thrombosis. At operation the portal venous system was dilated and the pressure was 280 mm. of saline solution. The liver was grossly nodular. The postoperative course was uneventful and the patient was discharged 9 days after the operation. Microscopic examination of the liver specimen obtained at operation showed obvious cirrhosis with mild fibrosis and mild pseudolobular formation but with preservation of much normal liver.

COMMENT

The results of liver function tests in this case were essentially normal except for a determination of serum cholesterol of 100 mg. per 100 cc. and one serum alkaline phosphatase value of 12.3 units, which may have been a laboratory error.

The cause of cirrhosis in the present case was not definitely established. It is possible that the patient had infectious hepatitis during his Army tour in Alaska. On the other hand, even though his alcoholic intake did not appear to be excessive, it may have been larger than was stated.

It should be noted that the liver biopsy specimen obtained via a Vim-Silverman needle was not satisfactory and that if the specimen had been larger the diagnosis might have been readily apparent at that time.

DISCUSSION

When gastrointestinal bleeding is due to esophageal varices caused by cirrhosis of the liver, the diagnosis often is not difficult. The underlying cirrhosis conveniently produces ample abnormalities in the way of history, physical signs and reactions to laboratory tests. However, this is not always true and cirrhosis may be a very silent illness, indeed. Welch[8] mentioned that patients may have no clinical evidence of liver disease yet bleed from esophageal varices.

Ricketts and co-workers[6,7] in 1950 reported on 50 patients with portal cirrhosis. They noted that results of conventional tests of hepatic function may be normal in portal cirrhosis; that pronounced fibrosis of the liver did not alter the results of such tests, and that physical findings such as splenomegaly, collateral circulation of the abdomen and esophageal varices may be present without relationship to liver failure.

Higgins[2] in a report on 115 cases of patients with esophageal varices stated that "there seemed to be no relationship between the occurrences of varices and the presence of an enlarged liver or spleen, jaundice, ascites, edema, collateral venous circulation or spider angiomata."

The signs and symptoms of cirrhosis can be divided into two groups: Those produced by liver cell failure and those produced by mechanical factors. In the first group are findings such as jaundice, ascites, peripheral edema and abnormal reaction to liver function tests (positive cephalin flocculation, elevated thymol turbidity, elevated bromsulphthalein retention, reversal of the albumin-globulin ratio). In the second group would be the signs and symptoms produced by portal hypertension, such as splenomegaly, hypersplenic syndrome, esophageal varices and distended abdominal veins. The two groups of signs and symptoms produced by hepatic functional failure and hepatic mechanical failure, often are present together but may appear separately.

It is common practice to use the bromsulphthalein test to evaluate liver function in cases of upper gastrointestinal bleeding. Of 12 patients with asymptomatic cirrhosis of the liver reported upon by Ricketts and co-workers[6,7] only five had increased retention of bromsulphthalein. This is a useful test, but a normal result does not exclude the presence of cirrhosis and therefore may not on occasion exclude the presence of esophageal varices.

To show the presence of varices, if suspected, more than just liver function tests should be done. A careful x-ray study of the esophagus, especially the lower third, is necessary. Films need to be taken when the organ is relaxed and not overly distended with barium. The Valsalva maneuver[4] has been shown to be useful in bringing out varices.

Failure to visualize varices roentgenographically should not be taken as evidence that they do not exist. In 150 cases of cirrhosis of the liver studied by Brick and Palmer,[1] 95 of the patients were found to have varices by esophagoscopic examination, whereas the lesions were diagnosed by x-ray examination in only 29 patients.

Endoscopy is the single most reliable method of detecting varices of the esophagus.[5]

SUMMARY

Essentially normal results of liver function tests do not always exclude the presence of cirrhosis of the liver. Sometimes such results do not exclude the presence of bleeding from esophageal varices due to cirrhosis of the liver, as illustrated by a case reported.

The bromsulphthalein test should not be relied upon to exclude bleeding esophageal varices.

Careful x-ray studies and, most important of all, careful endoscopic examinations are needed to prove the presence or absence of esophageal varices.

Veterans Administration Hospital, 5901 East Seventh Street, Long Beach 4 (Stempien).

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California MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

A.M.A. Meeting

THE AMERICAN MEDICAL ASSOCIATION, meeting in San Francisco in late June, proved again, despite dour forecasts and uncomplimentary editorial comments, that American medicine carries on its business in a democratic manner and reaches its decisions after full and free debate.

Early newspaper publicity was centered on the housing difficulties in San Francisco, where an adequate number of hotel rooms was available but the quality of some of the local hostelries was not up to first cabin expectations. While this note tended to die away as the meeting progressed, it is noteworthy that the tentative plan to hold the 1962 session in San Francisco was held in abeyance. Meanwhile, it was announced that Chicago has been dropped as the 1960 convention city in favor of Miami Beach.

On the business side the House of Delegates rolled up its sleeves and considered 72 resolutions which covered a wide scope of topics. A condensed report on some of the major actions taken by this legislative body appears on another page of this issue.

Among the more torrid propositions before the House was a demand for immediate action on two resolutions adopted last December. One of those resolutions called for the A.M.A. to initiate discussions with third parties representing patients, for the purpose of developing principles governing the dealings of third parties with members of the medical profession. The other proposed a program of public education on the advantages of the free choice of physician by the patient. Both resolutions were aimed at the medical care plan of the United Mine Workers of America, which, as administrator of a large fund for medical care of its members, has embraced a policy of selecting panel physicians in the various areas where it operates.

The Board of Trustees of the A.M.A. asked the Commission on Medical Care Plans to study these December resolutions and their backgrounds and to report back with findings and recommendations. The new resolutions introduced by various state delegations at the June meeting demanded immediate action to carry out the purposes of the resolutions passed in December. The reference committee recommended deferring action until the commission's report was made, for it was believed the report would contain recommendations regarding relations of physicians, patients and third parties which would better define the area of action. However, the House of Delegates overrode this section of the reference committee's report and directed that the A.M.A. staff begin instantly to carry out the programs in question.

Seven separate resolutions on Social Security went through the mill of the House of Delegates, three of them calling for a referendum of A.M.A. members on compulsory inclusion of physicians under the Social Security laws, two calling for such compulsory inclusion and one asking for state-by-state inclusion under Social Security. All these were defeated, the House of Delegates holding that any polls to be taken should be carried out by those states desiring such polls, the results to be transmitted to the A.M.A. delegates from the polling state. It was pointed out that the A.M.A. makes no provision in its by-laws for polls or referendums of the membership and that the policy-making prerogative lies in the House of Delegates, whose powers should not be usurped.

On the subject of raising and distributing funds for voluntary health organizations, the House reiterated its commendation of these agencies, recognized their right to be free to conduct their own programs of research, education and fund-raising, and urged the American Medical Research Foundation to take no steps to endanger the constructive activities of the national voluntary health agencies.

Regarding the Veterans' Administration, the House noted the expenditures of more than $619,-

000,000 for hospitalized care of veterans in 1957 and suggested that vast economies could result from restricting the admission of veterans to those who had service-connected illness. About three-quarters of current admissions are for nonservice-connected disabilities. The House also urged that the Dean's Committee limit its activities in VA hospitals to those admitting only patients with service-connected disease.

The House also considered the Medicare program and voted down a proposal that repeal of Public Law 569 should be sought. Instead, it was voted that the individual states should determine with Medicare administrators the type of contract they wish. It was also voted to reaffirm an earlier decision that this legislation does not require fixed fee schedules but that physicians should be permitted to charge their usual fees for Medicare cases, in the interest of economy of administration and the maintenance of orderly economics in medical practice.

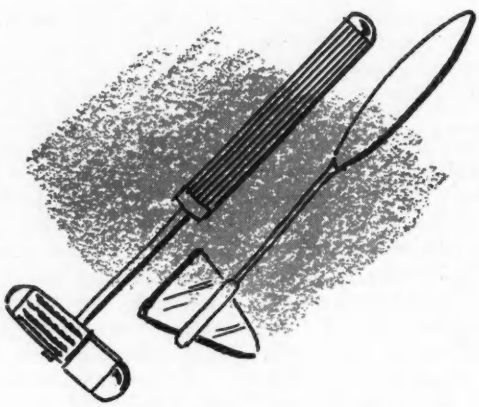
A California resolution, asking the Board of Trustees to reevaluate the Washington office of the A.M.A. so that it might achieve its original purpose of "effective public and government relations," was adopted by the House and sent to the Board of Trustees for activation. Another California resolution, asking the appointment of a committee on atomic medicine, which would concern itself with informing the public on all aspects of radiation hazards, was also approved by the delegates.

In the elections climaxing the session, Dr. Louis M. Orr, urologist from Orlando, Florida, was chosen president-elect, following Dr. Gunnar Gundersen of LaCrosse, Wisconsin, who succeeded Dr. David B. Allman of Atlantic City as president. California was again honored by the unanimous reelection of Dr. E. Vincent Askey of Los Angeles as Speaker of the House of Delegates. Results of other elections are printed elsewhere in this issue.

Scientifically, the A.M.A. session again presented to the American public a broad view of modern medical advances, including a nationwide telecast of an actual heart operation on a San Francisco boy, utilizing a heart-lung machine.

The new "Mole Hall" exhibit area just completed under the city's Civic Center, housed a large number of medical exhibits which drew national acclaim for their imagination, construction and educational values.

All in all, the American Medical Association carried off its 1958 annual session in the true tradition of "the greatest medical show in the world."



California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 436th Meeting of the Council, San Francisco, St. Francis Hotel, June 7, 1958.

The meeting was called to order by Chairman Lum in the Georgian Room of the St. Francis Hotel, San Francisco, on Saturday, June 7, 1958 at 9:30 a.m.

Roll Call:

Present were President West, President-Elect Reynolds, Speaker Doyle, Secretary Daniels, Editor Wilbur and Councilors MacLaggan, Wheeler, Todd, O'Neill, Kirchner, O'Connor, Shaw, Pearman, Harrington, Davis, Sherman, Lum, Bostick and Teall.

Absent for cause, Vice-Speaker Heron, Councilor Foster.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Gillette, Whelan and Collins of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Doctor W. E. Batchelder; Eugene Salisbury of the Public Health League of California; county society executives Scheuber of Alameda-Contra Costa, Rosenow of Los Angeles, Pettis of Los Angeles, Field of Los Angeles, Bannister of Orange, Marvin of Riverside, Foster of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson of San Joaquin, Wood of San Mateo and Donovan of Santa Clara; Doctors A. E. Larsen and William Gardenier and Messrs. Paolini and Wahlberg of California Physicians' Service; William Rogers of the California Academy of General Practice; Doctor Malcolm Merrill, State Director of Public Health; Doctor Marshall Porter, State Director of Mental Hygiene; Doctors Malcolm Watts, David A. Wood, Jay Ward Smith, Thomas Elmendorf and Oscar Railsback, and others.

1. *Minutes for Approval:*

(a) On motion duly made and seconded, minutes of the 434th meeting of the Council, held April 26 to April 30, 1958, were approved.

(b) On motion duly made and seconded, minutes of the 435th meeting of the Council, held April 30, 1958, were approved.

2. *Membership:*

(a) A report of membership as of June 5, 1958, was presented and ordered filed.

(b) On motion duly made and seconded, 293 delinquent members whose dues had been received were voted reinstatements.

(c) On motion duly made and seconded in each instance, 19 applicants were voted Associate Membership. These were: Jean Dehlinger, James O. Gillespie, Alameda-Contra Costa County; Donald E. Burdick, Paul Burt Kinney, Hazel W. Krause, Leonard M. Linde, Charles H. Markham, Edmund L. Sherwood, George X. Trimble, Los Angeles County; Mary Jaros, Marin County; Gerald S. Barker, Napa County; Frank R. Lemon, San Bernardino County; T. L. Althausen, Jr., David P. Brown, William D. Byrne, Roland Levy, San Fran-

FRANCIS E. WEST, M.D. . . . . President
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cisco County; Duane Deakins, San Joaquin County; Clifford Walker, San Luis Obispo County; E. Wylda Hammond, Sonoma County.

(d) On motion duly made and seconded in each instance, 12 applicants were voted Retired Membership. These were: V. L. Andrews, Hiram Gallagher, Glen E. Glasgow, Dean E. Godwin, August H. Larson, Daniel D. Lucey, James R. Martin, Solomon Strouse, Howard F. West, Los Angeles County; Alfred Newman, San Francisco County; Marshall L. Carter, Leon Melkonian, Santa Clara County.

(e) On motion duly made and seconded in each instance, 18 members were voted a reduction of dues because of illness or postgraduate study.

3. *Financial:*

(a) A report of bank balances as of June 5, 1958, was presented and ordered filed.

(b) A report of income and expenditures for May and for the 11 months ended May 31, 1958, was presented and ordered filed.

(c) On motion duly made and seconded, it was voted to purchase, provided a suitable discount could be secured, a contract in the face amount of $80,000 issued by a blood bank in California to a physician. A vote of three-fourths was noted and the Finance Committee was authorized to negotiate for the purchase of this obligation.

4. *House of Delegates Resolutions:*

(a) The Council considered a series of resolutions referred to the Council by the 1958 House of Delegates for further study. These were:

Resolution No. 18. On motion duly made and seconded, it was voted to approve the resolution and refer it to a special committee chairmanned by Doctor West and to the California Delegates to the American Medical Association.

Resolution No. 23. On motion duly made and seconded, it was voted to refer this matter to the Committee on Public Relations.

Resolution No. 42. On motion duly made and seconded, it was voted to refer this matter to Doctor West's committee.

Resolution No. 48. On motion duly made and seconded, it was voted to adopt this resolution.

Resolution No. 63. On motion duly made and seconded, it was voted to delete the section of the resolution referring to the Board of Trustees of the American Medical Association and to adopt the resolution in this amended form.

(b) The Council considered a series of resolutions adopted by the 1958 House of Delegates but requiring Council consideration and/or action. On motion duly made and seconded in each instance, the Council took the following actions on these resolutions:

Resolution No. 1—Referred to Committee on Legislation.

Resolution No. 3—Referred to Committee on Legislation.

Resolution No. 9—Request county societies to offer their committee services in third party cases.

Resolution No. 31—Referred to Commission on Professional Welfare.

Resolution No. 32—Referred to Committee on Public Relations.

Resolution No. 34—Voted to allow a per diem of $100 to the President and President-Elect while on official business, provided a $10,000 annual maximum would prevail.

Resolution No. 40—Referred to Committee on Legislation.

Resolution No. 52—Referred to Committee on Legislation, with instructions for the committee to confer with the State Department of Motor Vehicles.

Resolution No. 58—Accept and approve the first two sections of the resolution and refer the third section to the Committee on Public Relations.

Resolution No. 59—No action needed, since the requirements of the resolution have already been met.

Resolution No. 62—Referred to Commission on Medical Services for study.

Resolution No. 67—Referred to Committee on Legislation.

5. *Commission on Medical Services:*

(a) Doctor Harrington reported that the Liaison Committee to the State Department of Social Welfare will meet soon with that department. In this connection he gave a progress report on the preferences of members as to methods of payment preferred under the Public Welfare Assistance Act.

(b) Doctor Harrington reported that hearings will soon be held by the Senate Interim Committee on Social Welfare. It was agreed that Doctor West should represent the Association in presenting its attitude toward the Public Welfare Assistance Act and that Doctor Harrington and representatives of California Physicians' Service should attend as technical advisors.

(c) Chairman Lum read a letter from a member of a county medical society which was critical of the actions of Doctor Harrington as chairman of the Liaison Committee and Doctor Dan O. Kilroy as chairman of the Committee on Legislation. The chairman also read letters received from several other county societies which expressed confidence in and commendation of these two committee chairmen. On motion duly made and seconded, it was

voted to reaffirm the confidence of the Council in Doctors Harrington and Kilroy and to commend them for their valuable services in behalf of the Association, and to advise all county medical societies to this effect.

(d) Doctor Harrington suggested that the work of the Liaison Committee and of the Committee on Indigent and Aged were somewhat parallel and that Doctor Thomas Elmendorf, chairman of the Committee on Indigent and Aged, be added as a member of the Liaison Committee. On motion duly made and seconded, it was voted to appoint Doctor Elmendorf as a member of the Liaison Committee.

6. *Commission on Medical Education:*

Doctor Daniels reported on a meeting of the Committee on Scientific Work, at which it was decided that postgraduate courses, using faculties from University of California and Stanford, would be given at the 1959 Annual Session. The committee also discussed the possibility of rearranging the general sessions so as to eliminate clinical-pathological conferences, and substitute sessions on socio-economic topics. The committee plans to confer with the Medical Review and Advisory Board on this proposal.

7. *Commission on Public Health and Public Agencies:*

Doctor MacLaggan reported that the Committee on Allied Health Agencies had met and discussed the feasibility of providing for approval of voluntary health agencies. He stated that further study would be given to this subject.

8. *Commission on Public Policy:*

(a) Mr. Eugene Salisbury of the Public Health League of California reported that a proposal was now before the Congress to provide that medical services for dependents of military personnel be provided only in military installations.

(b) Doctor Malcolm Watts, chairman of the Committee on Public Relations, reported that the committee was planning meetings to start in September. This committee was given several items for study during the Council's discussion of House of Delegates actions.

9. *Committee Appointments:*

(a) Doctor Bostick requested clarification of the status of the Committee on Committees. On motion duly made and seconded, it was voted to continue this committee as a standing committee of the Council.

(b) On motion duly made and seconded, it was voted to reappoint Doctor Donald A. Charnock as a member and chairman of the Judicial Commission.

(c) Doctor Bostick was requested to bring nominations to the Council for appointment to the Committee on Adoptions, which is to be reactivated.

10. *Foreign Medical School Graduates:*

Doctor William A. Winn of Tulare County, medical director of the Tulare-Kings County Hospital, reported a need for medical graduates who could be trained in tuberculosis work and suggested that some form of temporary licensure be evolved to permit graduates of foreign medical schools to serve in tuberculosis hospitals in clinical medical capacities while being trained. On motion duly made and seconded it was voted to refer this request to the State Board of Medical Examiners and the deans of the medical schools.

11. *Commission on Professional Welfare:*

Doctor Arthur A. Kirchner, chairman of the Medical Review and Advisory Board, reported on the anticipated completion in July of a study being made on professional liability cases in hospitals. The committee may wish to publish this study, he stated.

Mr. Whelan reported progress in the establishment of panels of physicians in San Diego, San Francisco and Alameda Counties to serve as consultants in professional liability cases.

12. *Commission on Medical Services:*

Doctor Frank J. Cox, representing the Committee on Fees, suggested that the original format of the Relative Value Study be utilized in resurveying this study. He also asked that the county societies be asked to cooperate, with the expectation that county returns could be made available to the societies. In view of the expanded nature of the resurvey, it was regularly moved, seconded and voted by a three-fourths vote to appropriate an additional $4,000 for this project, and to make the total cost $10,000.

Doctor Cox also requested the members of the Council to advise the county societies in their areas on the impending resurvey of the Relative Value Study and to solicit their cooperation.

13. *State Department of Public Health:*

Doctor Malcolm H. Merrill, State Director of Public Health, reported that there was a current upswing in the incidence of paralytic poliomyelitis, a seasonal expectation, and stated that his department was still anxious that vaccine be given to all citizens to age 40.

Doctor Merrill also reported that the mosquito density in selected areas is being studied in advance of the encephalitis season. The department has also issued regulations for the use of nalline in determining narcotics addiction and is currently working on strengthening the area control of rabies.

Some increase over the current $5,200,000 annual federal appropriation for Hill-Burton hospital construction funds is expected, Doctor Merrill said.

14. *State Department of Mental Hygiene:*

Doctor Marshall Porter, State Director of Mental Hygiene, reported on the need of further studies and research on alcoholism. He also reported that community mental health centers established under terms of the Short-Doyle Act are progressing slowly but smoothly.

Doctor Porter also reported that the 1958-1959 budget for his department totals about $102,000,000, an increase of some $7,000,000 over the current fiscal year. The additional funds will be used, he said, for training of physicians in psychiatry, for additional supplies of drugs and for other professional purposes.

15. *Legal Department:*

Mr. Hassard reported that a case decided in the Superior Court, holding that a district hospital had the right to maintain proper standards for naming staff members, had been appealed by the plaintiff, a physician denied such staff membership.

Mr. Hassard also reported that an appeals court had upheld the conviction in a lower court of a practitioner in another profession who had been found guilty of aiding and abetting the unlawful practice of his profession by associating with himself and delegating duties to a practitioner of a third profession whose license did not permit him to carry out such practices.

On motion duly made and seconded, with a three-fourths vote noted, it was voted to share expenses, up to a maximum of $3,000, with a component medical society in an organizational matter involving questions of statewide significance.

16. *California Physicians' Service:*

Mr. Etchel Paolini reported for California Physicians' Service that 185,943 claims had been processed in May on the public welfare assistance program.

On motion duly made and seconded, it was voted that no objection would be raised to the proposal that California Physicians' Service offer a pre-payment plan to the authorities of a county for the establishment of a program of medical care for indigents.

17. *Time and Place of Next Meeting:*

It was agreed that the next meeting of the Council be set for Saturday, July 12, 1958, in Los Angeles.

DONALD D. LUM, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

A.M.A. House of Delegates

This summary of actions of the American Medical Association's 107th Annual Meeting, held June 23 to 27, 1958 in San Francisco, covers only a few of the many important subjects dealt with by the House of Delegates and is not intended as a detailed report of all actions taken.

THE UNITED MINE WORKERS of America Welfare and Retirement Fund, Social Security coverage for self-employed physicians, relations with voluntary health organizations, veterans' medical care, the Medicare program, the Association's Washington Office and over-all legislative system, the medical aspects of hypnosis and the advertising of over-the-counter medications were among the variety of subjects acted upon by the House of Delegates at the American Medical Association's 107th Annual Meeting held June 23-27 in San Francisco.

Dr. Louis M. Orr, urologist of Orlando, Fla., was chosen unanimously as president-elect for the coming year. Dr. Orr, who in recent years has been vice speaker of the House of Delegates and chairman of the A.M.A. Committee on Federal Medical Services, will become president of the American Medical Association at the June, 1959, meeting in Atlantic City. He then will succeed Dr. Gunnar Gundersen of La Crosse, Wis., who became the 112th president at the Tuesday night inaugural ceremony in the Rose and Concert Rooms of the Sheraton-Palace Hotel.

The 1958 Distinguished Service Award of the American Medical Association was voted to Dr. Frank Hammond Krusen, professor of physical medicine and rehabilitation at Mayo Foundation, Rochester, Minn., for his outstanding achievements and contributions in the field of physical medicine and rehabilitation. For only the fourth and fifth times in A.M.A. history, the House also approved special citations to laymen for outstanding service in advancing the ideals of medicine and contributing to the public welfare. Recipients of these awards were Mrs. Charles W. Sewell of Otterbein, Ind., who has spent 45 years in rural health work, and Gobind Behari Lal, Ph.D., distinguished science writer and Pulitzer prize winner.

UNITED MINE WORKERS

Major discussion of relations between medicine and the UMWA Welfare and Retirement Fund centered on a reference committee report which concurred in a Board of Trustees opinion that final action on two resolutions adopted in December, 1957, should be postponed until the final report of the Commission on Medical Care Plans is received.

One of those resolutions, Number 20, declared that "a broad educational program be instituted at

once by the American Medical Association to inform the general public, including the beneficiaries of the Fund, concerning the benefits to be derived from preservation of the American right to freedom of choice of physicians and hospitals as well as observance of the 'Guides to Relationships Between State and County Medical Societies and the UMWA Welfare and Retirement Fund' adopted by this House last June." The other resolution, Number 24, called for the appropriate A.M.A. committee or council to engage in conferences with third parties to develop general principles and policies which may be applied to their relationships with members of the medical profession.

In explaining its position that final action on the two resolutions should be taken only after proper study, the reference committee said it "anticipates that the final report of the Commission on Medical Care Plans will contain recommendations serving to clarify the relationships between the medical profession, the patient and third parties, and the committee has been assured that this can be expected." The committee also urged the Commission to present its recommendations no later than December, 1958.

The House of Delegates, however, by a vote of 110 to 72, adopted a floor amendment "that this section of the Reference Committee report be amended to show that our A.M.A. Headquarters Staff is directed, under supervision of the Board of Trustees, to proceed immediately with the campaign which was originally ordered at Philadelphia last December, that no further delays will be tolerated, and that the Council on Medical Service be relieved of any further responsibility in this matter."

SOCIAL SECURITY COVERAGE

In considering seven resolutions dealing with the inclusion of self-employed physicians under the Social Security Act, the House disapproved of three which called for polls or a referendum of the A.M.A. membership, one which favored state-by-state participation in Social Security, and two which called for compulsory inclusion on a national basis. Instead, the House adopted a resolution pointing out that "American physicians always have stood on the principle of security through personal initiative," and reaffirming unequivocal opposition to the compulsory inclusion of self-employed physicians in the Social Security system.

On the question of polls, the House expressed the opinion that any poll should be taken on a state-by-state basis and the results transmitted to the A.M.A. delegates from that state. It also pointed out that since there is no provision in the Constitution and By-Laws for a referendum of members, such a referendum would usurp the duties and prerogatives of the House of Delegates, which is the Association's policy-making body.

VOLUNTARY HEALTH ORGANIZATIONS

Dealing with problems that have arisen in the raising and distributing of funds since development of the concept of united community effort, the House adopted the following statement offered in the form of amendments from the floor:

"1. That the House of Delegates reiterate its commendation and approval of the principal voluntary health agencies.

"2. That it is the firm belief of the American Medical Association that these agencies should be free to conduct their own programs of research, public and professional education and fund raising in their particular spheres of interest.

"3. That the House of Delegates respectfully requests that the American Medical Research Foundation take no action which would endanger the constructive activities of the national voluntary health agencies.

"4. That the Board of Trustees continue actively its studies of these perplexing problems looking forward to their ultimate solution."

VETERANS' MEDICAL CARE

Pointing out that the Federal government spent $619,614,000 on hospitalized medical care of veterans in VA hospitals in 1957, of which about 75 per cent had non-service-connected disabilities, and that ways and means of obtaining economy in Federal government are allegedly being sought by Congress at this time, the House urged Congressional action to restrict hospitalization of veterans at VA hospitals to those with service-connected disabilities. It also recommended that the American Medical Association suggest to the Dean's Committees that they restrict their activities to Veterans Administration hospitals admitting only patients with service-connected disabilities.

THE MEDICARE PROGRAM

In disapproving a resolution calling for repeal, modification or amendment of Public Law 569, the House took the position that desired changes in the Medicare program could be accomplished through modification of the present implementing directives without the necessity for new legislation. The House reaffirmed the action taken last year in New York recommending that the decision on type of contract and whether or not a fee schedule is included in future contract negotiations should be left to indi-

vidual state determination. Also reaffirmed was the Association's basic contention that the Dependent Medical Care Act as enacted by Congress does not require fixed fee schedules; the establishment of such schedules would be more expensive than permitting physicians to charge their normal fees, and fixed fee schedules would ultimately disrupt the economics of medical practice.

WASHINGTON OFFICE

The House adopted a resolution requesting the Board of Trustees to make an immediate survey and re-evaluation of "the functions and effectiveness of the over-all A.M.A. legislative system, including the Washington office, in the light of present-day needs of the government, public and medical profession alike for effective liaison between government and medicine on all matters affecting the public's health and adequate, prompt and accurate transmittal to the full membership of the A.M.A. of information on all current public issues in which the physician has a direct interest." The House asked that the Board of Trustees implement, as rapidly as possible, all changes and additions that its survey discloses are desirable to achieve the basic purpose of the resolution, "effective public and government relations."

MEDICAL ASPECTS OF HYPNOSIS

A Council on Mental Health report on "Medical Use of Hypnosis" was approved by the House, which recommended that it be published in the *Journal of the American Medical Association* with bibliography attached. The report stated that general practitioners, medical specialists and dentists might find hypnosis valuable as a therapeutic adjunct within the specific field of their professional competence. It stressed, however, that all those who use hypnosis need to be aware of the complex nature of the phenomena involved. Teaching related to hypnosis should be under responsible medical or dental direction, the report emphasized, and should include the indications and limitations for its use. The report urged physicians and dentists to participate in high level research on hypnosis, and it vigorously condemned the use of hypnosis for entertainment purposes.

OVER-THE-COUNTER MEDICATIONS

The House endorsed recommendations by the Public Relations Department that:

The A.M.A. join with other interested groups in setting up an expanded voluntary program, coordinated by the National Better Business Bureau, which will seek to eliminate objectionable advertising of over-the-counter medicines.

The A.M.A. consult with the National Better Business Bureau in the selection of a physicians' advisory committee.

The established facilities of the A.M.A., such as the Chemical Laboratory, the offices of the various scientific councils, and the Bureau of Investigation, be made available, so far as is feasible, to aid in the carrying out of this program.

The Public Relations Department continue its liaison work with the various groups involved and assist in the development and operation of this program in any way possible.

The A.M.A. become a sustaining member of the National Better Business Bureau, giving evidence of its willingness and desire to support this organization in its worthwhile activities.

MISCELLANEOUS ACTIONS

Among a wide variety of actions on many subjects, the House also:

Adopted amendments to the **Constitution and Bylaws** which eliminate the separate offices of Secretary and Treasurer, combining them into one, and which change the titles of the General Manager and Assistant General Manager to Executive Vice President and Assistant Executive Vice President;

Recommended the appointment of a Committee on **Atomic Medicine** and Ionizing Radiation and suggested that it concern itself with informing the American public on all phases of radiation hazards related to the national health;

Approved in principle the admission of the **Virgin Islands Medical Society** as a constituent society of the American Medical Association;

Commended the **Federal Food and Drug Administration** for its untiring efforts in behalf of the public and the profession, and urged all states to review and strengthen their food and drug laws;

Approved the "Suggested Guides for the Organization and Operation of Medical Society **Committees on Aging,**" submitted by the Council on Medical Service;

Commended the Committee on Medical and Related Facilities of the Council on Medical Service for its report on the **Hill-Burton** Study and approved its recommendations;

Requested that any funds provided under the Public Assistance provisions of the Social Security Act for medical care of the indigent be administered by a voluntary agency such as Blue Shield on a cost plus basis or by a specific agency established by the medical society of the state in which indigent care is rendered;

Directed the Board of Trustees to study problems pertaining to licensure by reciprocity and to consult

with the Federation of State Medical Boards in an attempt to find a satisfactory solution;

Urged all members of the House of Delegates to give full consideration to the preliminary report of the Committee on Preparation for General Practice and to submit comments and suggestions to that committee;

Expressed the opinion that some operating room experience is valuable and necessary training for all nurses;

Recommended that general hospitals, wherever feasible, be encouraged to permit the hospitalization of suitable psychiatric patients, and

Approved a National Interprofessional Code for physicians and attorneys prepared by the joint liaison committee of the American Medical Association and the American Bar Association.

OPENING SESSION

At the Monday opening session Dr. David B. Allman, retiring A.M.A. president, urged every physician to rededicate himself to the service of mankind and every medical society to strengthen its disciplinary system "to prevent the very few from besmirching the vast majority of us." Dr. Gundersen, then president-elect, said the Association is moving ahead in finding the best possible ways to serve both the public and the medical profession, and he declared there is no reason to believe that its influence and impact will not continue to grow in the times ahead. The Goldberger Award in clinical nutrition was presented to Dr. Virgil P. Sydenstricker, professor emeritus of medicine at the Medical College of Georgia.

INAUGURAL CEREMONY

Dr. Gundersen, in his Tuesday night inaugural address, called upon the medical profession to accept its full responsibilities in promoting better world health, brotherhood and peace, adding that "the time has come when medical statesmanship must be used to augment the methods of political diplomacy." Dr. Gundersen also presented the Distinguished Service Award to Dr. Krusen and the special layman citations to Mrs. Sewell and Dr. Lal. The Shrine Chanters of Oakland, Calif., provided choral numbers during the program.

ELECTION OF OFFICERS

In addition to Dr. Orr, the new president-elect, the following officers were selected by the House on Thursday:

Dr. W. Linwood Ball of Richmond, Va., vice president; Dr. E. Vincent Askey of Los Angeles, re-elected speaker, and Dr. Norman A. Welch of Boston, vice speaker.

Dr. Warren W. Furey of Chicago was elected for a five year term on the Board of Trustees, succeeding Dr. E. S. Hamilton of Kankakee, Ill. Dr. Raymond M. McKeown of Coos Bay, Ore., was re-elected for a five year term, and Dr. R. B. Robins of Camden, Ark., was named to fill the unexpired term of Dr. F. J. L. Blasingame. Dr. Leonard W. Larson of Bismarck, N. D., was elected chairman of the Board at its organizational meeting after the Thursday elections.

Dr. George A. Woodhouse of Pleasant Hill, Ohio, was renamed to the Judicial Council. Elected to the Council on Medical Education and Hospitals were Dr. Leland S. McKittrick of Brookline, Mass., to succeed himself, and Dr. John V. Bowers of Madison, Wis., to succeed Dr. Victor Johnson of Rochester, Minn.

Dr. R. B. Chrisman, Jr., of Coral Gables, Fla., and Dr. J. F. Burton of Oklahoma City, Okla., were re-elected to the Council on Medical Service. For the same Council, Dr. Russell B. Roth of Erie, Pa., was named to fill the unexpired term of Dr. H. B. Mulholland of Charlottesville, Va., resigned.

Three members were elected to the Council on Constitution and Bylaws: Dr. William Stovall of Madison, Wis., to succeed Dr. Stanley H. Osborn of Hartford, Conn.; Dr. William Hyland of Grand Rapids, Mich., to fill the unexpired term of Dr. Floyd S. Winslow, deceased, of Rochester, N. Y., and Dr. Walter Bornemeier of Chicago, to replace Dr. Furey.

The House approved a Board of Trustees announcement that Miami Beach will replace Chicago as place of the 1960 Annual Meeting, and New York will be the site of the 1961 Annual Meeting. Action was postponed on selection of the city for the 1962 Annual Meeting.

Rising votes of appreciation were given to Dr. Hamilton; Dr. George F. Lull, retiring secretary, and Dr. J. J. Moore, retiring treasurer.

At the Wednesday session of the House the Illinois State Medical Society made another record state society contribution to the American Medical Education Foundation by turning over a check for $177,500 to Dr. Lull, now foundation president.

F. J. L. Blasingame, M.D.
Executive Vice President
American Medical Association

Actions of Special Importance by A.M.A. House of Delegates

Basic Medical Rights of American Citizens

"***Resolved,*** That the House of Delegates approve the following principles:

"We, as physicians, cognizant that the American citizen enjoys certain basic rights as his heritage, and that these rights extend to the citizen in his position as a patient, do hereby recognize these basic medical rights:

"1. He should have the right to employ the physician of his choice and should be free to terminate the professional relationship at will, without bureaucratic or governmental domination; and

"2. He should have the right to know that his physician is responsible for all decisions regarding the extent of his medical care, and that these decisions are not dictated, restricted, or controlled by any third party; and further be it

"***Resolved,*** That the House of Delegates request the Board of Trustees and its representatives to publicize these principles as the basis for participation in any program of medical care."

* * *

Indigent Care

"That the American Medical Association request that any funds provided under the Public Assistance provisions of the Social Security Act for medical care of the indigent be administered by a voluntary agency such as Blue Shield on a cost plus basis or by a specific agency established by the medical society of the state in which indigent care is rendered."

* * *

Voluntary Health Agencies

Dealing with problems that have arisen in the raising and distributing of funds since development of the concept of united community effort, the House adopted the following statement offered in the form of amendments from the floor:

"1. That the House of Delegates reiterate its commendation and approval of the principal voluntary health agencies.

"2. That it is the firm belief of the American Medical Association that these agencies should be free to conduct their own programs of research, public and professional education and fund raising in their particular spheres of interest.

"3. That the House of Delegates respectfully requests that the American Medical Research Foundation take no action which would endanger the constructive activities of the national voluntary health agencies.

"4. That the Board of Trustees continue actively its studies of these perplexing problems looking forward to their ultimate solution."

* * *

Inclusion of Physicians Under Social Security

"WHEREAS, Proposals for the inclusion of self-employed physicians in the Social Security System have been made repeatedly and are now pending before Congress and

"WHEREAS, The matter has been discussed several times before the A.M.A. House of Delegates and its reference committees, yet there remains the necessity of reiterating our position to members of Congress and to the general public that American physicians still strongly oppose being included in the Social Security System; and

"WHEREAS, American physicians always have stood on the principle of security through personal initiative; therefore be it

From the House of Delegates of the California Medical Association

SOCIALISM

Be It Resolved, **That the California Medical Association recognize government financed and administered medical plans as no different from governmental monopolistic operation of any industry; and be it further**

Resolved, **That the officers of the California Medical Association decline to bind its individual or collective members to any agreement with a bargaining third party, and be it further**

Resolved, **That the California Medical Association assert its belief in democracy, warn its membership of the deeply entrenched position of power with which all forms of government surround its electorate, and declare its support of intellectual and economic freedom for all men, including physicians.**

* * *

This statement of attitude, introduced by Frederic P. Shidler, San Mateo County Medical Society, was adopted by the House of Delegates at its meeting in April of this year.

"Resolved, That the House of Delegates of the American Medical Association unequivocally opposes the compulsory inclusion of self-employed physicians in the Social Security System."

* * *

Medicare

Resolution No. 1 refers to the repeal of Public Law 569—the Medicare Law. As this law contains a variety of methods of financing health care costs, it is the opinion of the Reference Committee on Legislation and Public Relations that the purposes stated in the second resolve of Resolution No. 1 could be accomplished through modification of the present implementing directives without the necessity for new legislation. Therefore, your reference committee recommends that Resolution No. 1 be not approved but that the action taken by this House of Delegates in New York in 1957 with respect to Resolution 19, which reads in part as follows, be reaffirmed:

"We . . . are recommending that the decision as to the type of contract and whether or not a fee schedule is included in future contract negotiations should be left to individual state determination . . ."

In Memoriam

BRANDON, JOHN J. Died in Piedmont, June 25, 1958, aged 41, of heart disease. Graduate of Indiana University School of Medicine, Bloomington-Indianapolis, 1950. Licensed in California in 1951. Dr. Brandon was a member of the Alameda-Contra Costa Medical Association.

✤

DAVIS, WALTER WILLIAM. Died in Los Angeles, June 8, 1958, aged 48, of heart disease. Graduate of Meharry Medical College, Nashville, Tennessee, 1935. Licensed in California in 1943. Dr. Davis was a member of the Los Angeles County Medical Association.

✤

KIRK, ALBERT WELLINGTON. Died in Berkeley, July 5, 1958, aged 88. Graduate of College of Physicians and Surgeons of San Francisco, 1900. Licensed in California in 1900. Dr. Kirk was a member of the San Francisco Medical Society.

✤

LANDIS, CHARLES CALDWELL. Died in Loma Linda, March 10, 1958, aged 75. Graduate of George Washington University School of Medicine, Washington, D. C., 1912. Licensed in California in 1912. Dr. Landis was a member of the Butte-Glenn Medical Society.

✤

LUMSDEN, ARTHUR GOMEZ. Died in Petaluma, April 30, 1958, aged 75. Graduate of College of Physicians and Surgeons of San Francisco, 1906. Licensed in California in 1909. Dr. Lumsden was a member of the Sonoma County Medical Society.

✤

NEWTON, WILLIAM C. Died June 6, 1958, aged 84. Graduate of Boston University School of Medicine, Massachusetts, 1896. Licensed in California in 1920. Doctor Newton was a retired member of the San Diego County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

NICHOLAS, CONSTANTIN Z. Died in Del Mar, June 12, 1958, aged 66, of heart disease. Graduate of the University of Moscow Faculty of Medicine, Russia, 1916. Licensed in California in 1925. Doctor Nicholas was a member of the San Diego County Medical Society.

✤

OPPENHEIMER, SALI. Died in Oakland, June 5, 1958, aged 67. Graduate of the Universität Heidelberg Medizinische Fakultät, Baden, Germany, 1914. Licensed in California in 1941. Doctor Oppenheimer was a member of the Alameda-Contra Costa Medical Association.

✤

PITKIN, HORACE COLLINS. Died in San Francisco, June 29, 1958, aged 60, of carcinoma of the lung. Graduate of Columbia University College of Physicians and Surgeons, New York, N. Y., 1924. Licensed in California in 1928. Doctor Pitkin was a member of the San Francisco Medical Society.

✤

SOBIN, DAVID J. Died in Los Angeles, June 14, 1958, aged 48, of cerebral hemorrhage. Graduate of Wayne University College of Medicine, Detroit, Michigan, 1937. Licensed in California in 1945. Doctor Sobin was a member of the Los Angeles County Medical Association.

✤

TAYLOR, RAYMOND G. Died in Los Angeles, June 28, 1958, aged 86. Graduate of University of Southern California School of Medicine, Los Angeles, 1896. Licensed in California in 1897. Dr. Taylor was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✤

VON DER LEITH, HAROLD OTTO. Died in Berkeley, June 7, 1958, aged 82. Graduate of Cooper Medical College, San Francisco, 1897. Licensed in California in 1898. Dr. von der Leith was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

WALKER, JOE EDMUND. Died June 29, 1958, aged 57. Graduate of University of California School of Medicine, Berkeley-San Francisco, 1925. Licensed in California in 1925. Dr. Walker was a member of the Los Angeles County Medical Association.

Annual Meeting

Civic Auditorium

SAN FRANCISCO

February 22 to 25, 1959

Papers for Presentation

If you have a paper that you would like to have considered for presentation, it should be submitted *to the appropriate section secretary* (see list on this page) no later than September 1, 1958.

Scientific Exhibits

Space is available for scientific exhibits. If you would like to present an exhibit, please write immediately to the office of the California Medical Association, 450 Sutter Street, San Francisco 8, for application forms. To be given consideration by the Committee on Scientific Work, the forms, completely filled out, must be in the office of the California Medical Association no later than September 1, 1958. (No exhibit shown in 1958, and no individual who had an exhibit at the 1958 session, will be eligible until 1960.)

Medical Motion Pictures

There will be facilities available for motion pictures. If you would like to exhibit a film, send your application to Dr. Paul D. Foster, 1930 Wilshire Boulevard, Los Angeles 57. The deadline is October 15, 1958.

SCIENTIFIC PAPERS
SCIENTIFIC EXHIBITS
MEDICAL MOTION PICTURES
PLANNING MAKES PERFECT
AN EARLY START HELPS

SECRETARIES OF SCIENTIFIC SECTIONS

ALLERGY . . . . . **George F. Harsh**
2001 Fourth Avenue, San Diego 1

ANESTHESIOLOGY . . . . . **Charles D. Anderson**
439 30th Street, Oakland 9

DERMATOLOGY AND SYPHILOLOGY . **Herbert L. Joseph**
607 Carolina Street, Vallejo

EAR, NOSE AND THROAT . . . . **Ewing Seligman**
9735 Wilshire Boulevard, Beverly Hills

EYE . . . . . **A. Ray Irvine, Jr.**
2010 Wilshire Boulevard, Los Angeles 57

GENERAL PRACTICE . . . . . **James S. Eley**
624 Harris Street, Eureka

GENERAL SURGERY . . . . . **William F. Pollock**
2200 Santa Monica Boulevard, Santa Monica

INDUSTRIAL MEDICINE AND SURGERY . . . . . **Gandolph A. Prisinzano**
4041 H Street, Sacramento 19

INTERNAL MEDICINE . . . . . **Edward Shapiro**
123 North San Vicente Boulevard, Beverly Hills

OBSTETRICS AND GYNECOLOGY . . **Donald R. Nelson**
2439 Ocean Avenue, San Francisco 27

ORTHOPEDICS . . . . . **Howard A. Mendelsohn**
415 North Camden Drive, Beverly Hills

PATHOLOGY AND BACTERIOLOGY . . . **Leo Kaplan**
8720 Beverly Boulevard, Los Angeles 48

PEDIATRICS . . . . . **Gordon L. Richardson**
10711 Riverside Drive, North Hollywood

PHYSICAL MEDICINE . . . . **Carrie E. Chapman**
VA Hospital, 13th and Harrison Streets, Oakland 12

PSYCHIATRY AND NEUROLOGY . . **John D. Moriarty**
7046 Hollywood Boulevard, Hollywood 28

PUBLIC HEALTH . . . . . **Carolyn B. Albrecht**
920 Grand Avenue, San Rafael

RADIOLOGY . . . . . **William H. Graham**
630 East Santa Clara Street, San Jose 12

UROLOGY . . . . . **Earl F. Nation**
112 North Madison Avenue, Pasadena 1

PUBLIC HEALTH REPORT

Increase in Arthropod-Borne Encephalitis a Possibility

MALCOLM H. MERRILL, M.D., M.P.H.
Director, State Department of Public Health

THE COMMUNICATION below is the first of what is intended as a continuing series of reports from the State of California Department of Public Health on topics of interest to physicians in private practice. On a number of occasions in the past, Dr. Malcolm H. Merrill, Director of Public Health, has appeared before the Council of the California Medical Association with intensely interesting reports on matters of public health and the attitudes and functions of the department. Since the minutes of the meetings of the Council give only the briefest of notes on such communications, Dr. Merrill was asked—and has agreed—to make use of this section of California Medicine for public health reports that can be informative and useful to all members.

WITH LARGE NUMBERS of mosquitos infesting the southern area of the San Joaquin Valley, it is likely that the incidence of arthropod-borne encephalitis this summer and fall will be higher than usual.

Violent storms in January and February, and the resulting heavy snow pack, runoff and floods, provided an ideal situation for mosquito breeding. Mosquitos in large numbers are found from Fresno County south, with Kern the epicenter of the infestation. A principal concern of the State Department of Public Health is the possibility of transmission to man of the Western equine and St. Louis encephalitides by Culex tarsalis. The Western equine organism has been identified in pools of mosquitos collected in fields, recreational areas and around homes.

With present knowledge it is not possible to predict accurately whether California will have a high or low number of cases of encephalitis in any given season. However, some of the ingredients for an above-average encephalitis season are in evidence this year—excessive water, high mosquito infestation and a susceptible human population.

Since 1919, acute encephalitis has been a reportable disease in California. During the 1952 outbreak, 410 cases of St. Louis and Western equine encephalitis were confirmed out of a total of 805 reported acute cases. In only one year since then, 1954, have there been over 100 cases of the arthropod-borne types identified, although each year since 1952 more than 350 clinically suspected cases have been reported.

It is obvious that it is not the number of cases of the arthropod-borne encephalitides that makes the matter one of major public health importance in California, but rather for the potential epidemic nature of the disease.

The seasonal activity of arthropod-borne encephalitis in humans in California has followed a rather consistent pattern year after year. Western equine cases may first appear in June, then both Western and St. Louis cases occur in July, August and September, with St. Louis predominating in September and continuing into October, after which no further cases occur until the following year.

Particularly vital to public health is the prevention and control of the disease. Much research remains to be done to bring this about. The attempt to control these arthropod-borne encephalitides has been primarily aimed at the reduction in numbers of the mosquito vector. Almost four million dollars is spent annually on mosquito control in the state. But even with the combined efforts of the department's Bureau of Vector Control and the more than 50 local abatement agencies, considerable numbers of Culex tarsalis escape, and it seems apparent that eradication of this species is not likely to be accomplished.

The problem of control is intensified in years such as this, when personnel of local abatement agencies work overtime in efforts to reduce swarming mosquito infestation.

The alternative approach to control is the protection of humans. This can be approached in either of two ways: Physically protecting the human from the bite of the mosquito by the well known and accepted methods of repellents, mosquito netting and screening of homes, or artificially inducing in the host some immunity to the viruses involved.

This latter method has received considerable discussion, particularly as to why such a vaccine is not available for human use, since there is an acceptable Western equine vaccine for horses. The problems in-

volved here are both administrative and economic. It would be difficult to know to whom the vaccine should be given, whether it would need to be repeated each year and whether the cost of the vaccine and its administration would be greater than warranted in view of the relatively few human cases of these diseases.

In California this is a particular problem due to the vast number of migrant laborers who move through the Central Valley during the encephalitis season. And to be administratively feasible, a vaccine including both Western and St. Louis antigens would be required.

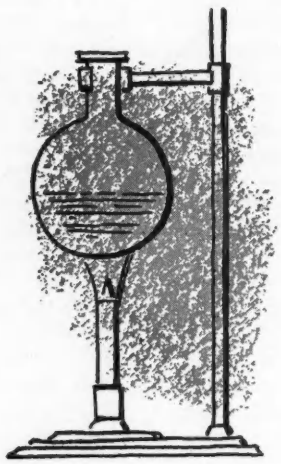
If a vaccine for humans were available, especially for Western equine, it might be possible to selectively immunize mothers during pregnancy, or newborn infants, so that the particularly high attack rate in infants under one year of age might be reduced. Selective use of the vaccine in this manner might be highly desirable. However, its use on a mass basis would seem, at the moment, to be unproductive and uneconomical. Furthermore, it must be recognized that only a small proportion of diagnosed cases of encephalitis is caused by these specific viral agencies.

Should there be a sharp rise in the incidence of encephalitis this summer and fall, private physicians could be extremely helpful to state and local health and research agencies by:

1. Prompt reporting of cases of suspected encephalitis to the local health department and collecting appropriate specimens for etiological diagnosis. The specimens should be sent either to the local health department or directly to the State Health Department's Viral and Rickettsial Disease Laboratory in Berkeley, depending upon local agency policy.

2. Being alert to the possibility of an increase in cases of encephalitis, not only in residents of the Central Valley but in patients who recently traveled through or camped in the valley.

3. Suggesting to patients who plan traveling through or visiting the valley to pay particular attention this year to the use of repellents and mosquito netting, especially toward dusk when Culex tarsalis prefers to feed.



WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

WE RETURNED from the 35th Annual Convention of the Woman's Auxiliary to the American Medical Association held in San Francisco in June with renewed interest.

Nearly 78,000 members who devote their valuable time and their efforts in support of an established program were represented by some 1,200 registered members including national officers, state presidents, presidents-elect, and state delegates and alternates.

A resume of our accomplishments on the county level as presented to the House of Delegates by state presidents, reaffirmed our conviction that in any undertaking a definite aim must be established and a program planned to support that aim.

We learned that it is not only the California Auxiliary that believes in the ideas and ideals of the American Medical Association, but that we are part of a team of doctors' wives upon whose shoulders rest the obligation of leadership in community health over the entire nation.

Nothing new is added to the program this year. Reevaluation, with special emphasis where needed, and an all-out effort will be placed behind the projects already under development to increase their effectiveness.

The fact that more legislative bills with medico-economic implications are introduced to Congress than any other type of legislation is proof of public interest in health.

The county auxiliaries must be kept informed to enable them to render a real community service by sponsoring health forums featuring speakers on medical subjects of local interest and general health education.

The cooperation of the county medical societies is necessary to the educational program. Clearance of speakers on medical subjects and medical legislation through the society is a must. All county auxiliary presidents and program chairmen are repeatedly alerted to check frequently with their county society advisory board and to clear speakers or to obtain speakers through the local Medical Speakers' Bureau.

Our greatest strength is in developing better understanding and public interest, community by community. The combined strength of the 34 counties and seven districts in California was revealed in the collective report of work done and activities participated in as compiled by Mrs. Offield, our immediate past president. The statistics were a credit to every California unit and, added to the reports of some 1,300 counties as given by the state presidents, the national officers' reports were almost unbelievable.

One report that we are certain you will be interested in was the amount contributed to the American Medical Education Foundation—nearly $126,000. We are proud of that feat and we know you are too.

As in all organizations where large numbers of people are concerned, there must be a means of coordination to unify efforts and decide policy. We have our state and national auxiliaries under the direction of our parent societies, the local, state and national medical associations.

In September, our California Auxiliary will hold the regular fall conference of county presidents, presidents-elect, district chairmen, state officers including district councilors, councilors at large and standing and special committee chairmen.

This is a workshop meeting, designed to discuss freely the desires and needs of the individual counties and to arrive at conclusions through which we can continue to be of the most effective service to our societies. With the aid of experienced state officers, past state presidents and members of the California Medical Association, we will become informed on the policies and objectives of auxiliary work through which we produce the results that make for reports such as were given at the recent national convention.

In October the conference of state presidents and presidents-elect with national officers and committee chairmen will be held again in Chicago. The same principle is involved as on the state level, with the result that all officers are indoctrinated with proper procedures and knowledge of policies.

Enthusiasm and respect for the principles of what we are doing is a great motivating force which we gain by the exchange of ideas, and these ideas we pass on to the back-home members who produce the efforts necessary to achieve our goals.

Dr. Gunnar Gundersen, president of the American Medical Association, in his inaugural address said:

"Medicine can play a vitally effective part in bringing reality to the dream of world peace.

"Medicine, despite the designs of politicians or dictators, is above the harsh conflict of ideologies and power politics.

"Medicine, like religion, speaks a universal language which passes all barriers of creed, race, color and nationality. The brightest chapter in the international story since World War II is that on health and medicine.

"As Americans, our first duty is to this country, but as members of a civilization which believes in the brotherhood of man, we also have a duty toward all men who yearn for freedom, dignity, peace and health.

"Physicians in America should never forget their responsibilities to all humanity or neglect their opportunities to promote the brotherhood of man."

MRS. NEWELL JONES
President, Woman's Auxiliary to the California Medical Association

Medical Jurisprudence . . .

Practice of Medicine; Delegation of Duties

HOWARD HASSARD
Peart, Baraty & Hassard

THE MODERN PRACTICE of medicine necessitates the use by physicians of many aids, including technicians in various specialties. A physician must rely not only on the nursing profession but also on laboratory technicians, x-ray technicians, physical therapists and others. None of these assistants are licensed to practice medicine and surgery, although some—clinical laboratory technicians and physical therapists for example—are licensed for limited purposes within their own functional areas.

A license, whether to practice medicine, law, dentistry or other profession or occupation, confers a personal privilege that is not transferable. Furthermore, as to medicine the Medical Practice Act (Business & Professions Code, Section 2392) forbids a licensed physician to employ an unlicensed person "in the practice of any system or mode of treating the sick or afflicted" (penalty for infringement may be loss of license). The section also forbids "the aiding or abetting of any unlicensed person to practice any system or mode of treating the sick or afflicted."

In view of the nontransferability of a medical license, and in view of the prohibitions against employing unlicensed personnel to practice medicine, or aiding or abetting unlicensed personnel to practice medicine, the question naturally arises: What specific functions may be lawfully delegated by a physician to an assistant, nurse, technician or other person who is not a licensed physician?

Some but not all of the commonly delegated duties have been the subject of court interpretation. For example, more than twenty years ago the California Supreme Court held that a surgeon may lawfully delegate to a nurse the administration of general anesthesia (*Chalmers Francis vs. Nelson*, 6 Cal. (2d) 402). The court recognized that anesthesia is a part of the practice of medicine, but reasoned that the surgeon is in full charge in the operating room and may, at his own risk, delegate functions as he chooses.

In April of this year another case was decided that fills in considerably the preexisting gaps in the determination of what may or may not be delegated to a non-physician. The case is interesting in several respects.

Legal Counsel, California Medical Association.

It involved an osteopathic physician and surgeon who took referrals from a chiropractor. The chiropractor referred an obstetrical case to the osteopath, and the osteopath invited the chiropractor to be present during delivery. After the infant was delivered the osteopath requested the chiropractor to suture a laceration about 2 cm. long on the left side of the vestibule of the vagina, which the chiropractor did. Later the Board of Osteopathic Examiners suspended the osteopath's license for aiding and abetting an unlicensed practitioner to practice medicine and surgery. Admittedly, the chiropractor had never had any instruction in his chiropractic school in the use of a suturing needle, and admittedly the chiropractic initiative act prohibits surgery by chiropractors. The osteopath appealed to the courts, but his suspension was upheld (*Newhouse vs. Board of Osteopathic Examiners*, 159 A.C.A. 828).

The court said that to constitute "practice" of medicine or surgery it was not necessary to establish a series of acts or that the person accused held himself out to the public as being engaged in rendering medical or surgical services. The single act of suturing the wound was held to constitute "practice" within the meaning of the prohibition in the Medical Practice Act against employing unlicensed persons or aiding and abetting unlicensed persons.

The court further said that inserting a needle constitutes penetration of tissue, which is the practice of medicine and surgery, and that the osteopath directed the chiropractor in the performance of a procedure for which the chiropractor was not licensed, and that therefore the osteopath aided and abetted an unlawful act.

Finally, the court distinguished between a disciplinary proceeding by the licensing board and a criminal action against the unlicensed person. The court said that in such a criminal action an isolated act by an unlicensed person under the supervision of a licensed practitioner would *not* constitute the "practice" of medicine.

This seems to lay down two standards of conduct —one for the licensed physician and the other for the unlicensed person.

The rule of the *Newhouse* case is applicable whether a physician aids and abets an independent individual, such as a chiropractor, or employs a person to perform medical or surgical procedures. The same section of the Medical Practice Act forbids both employment and aiding and abetting.

Earlier cases in California have held that a clinical laboratory technologist cannot employ unli-

censed personnel to perform prenatal examinations (*Cooper vs. State Board of Health*, 102 Cal. App. (2d) 926); and that a physician acting as medical director of a county hospital cannot employ as interns and residents in the hospital unlicensed physicians (*Rilcoff vs. State Bd. of Med. Exam.*, 90 Cal. App. (2d) 603).

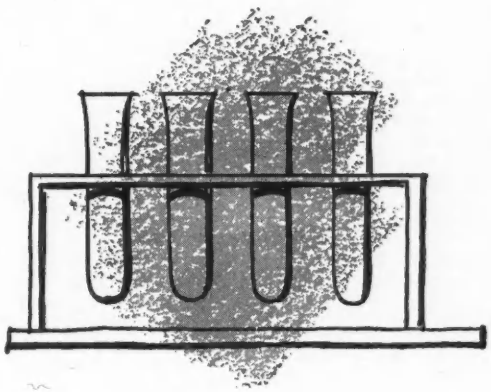
While a literal application of the Medical Practice Act would prohibit the delegation of any medical function to a non-physician assistant, it is quite obvious that reason forbids any such literal interpretation. Bear in mind that any penetration of tissue is the practice of medicine; that any therapeutic treatment is the practice of medicine; and that any diagnostic procedure is the practice of medicine.

That the courts will follow a rule of reason is evidenced by the *Chalmers Francis* case, in which a nurse anesthetist was held not to be unlawfully engaged in the practice of medicine when acting under the supervision of the operating surgeon.

Another example is *Sherman vs. Hartman*, 137 Cal. App. (2d) 589, where the court held that a physician who had *started* a transfusion could lawfully leave the patient in charge of a registered nurse. The court said: "Defendant (the doctor), finding that the transfusion was working properly in accordance with good medical practice, left the patient in the hands of a registered nurse. . . . He had the right to "assume that, being a registered nurse . . . she had the requisite training and knowledge to perform the simple act of watching the transfusion and seeing that if the needle slipped . . . the dripping of blood was stopped and a doctor called. . . ." (Actually, the nurse went to lunch and sub-delegated the task to an orderly! He failed to act promptly when the needle slipped.)

However, application of a rule of reason does not mean that wholesale, unnecessary or publicly undesirable delegations of duties by a licensed physician will be condoned.

When faced with the necessity of deciding whether an act is or is not unlawful, the courts are very likely to be guided by established custom, particularly the practices followed in teaching institutions, accredited hospitals and the like. A physician who delegates to an office assistant or other unlicensed person functions that his colleagues do not delegate or do not consider safe to delegate, is running the risk of legal charges of several types, including disciplinary action by the Board of Medical Examiners.



NEWS & NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

Dr. Robert Dyar, chief of the division of preventive medical services, California State Department of Public Health, became the president of the Western Branch of the American Public Health Association at the association's annual meeting in Vancouver, B. C.

* * *

Construction was begun last month on the **Bruce Lyon Memorial Research Laboratory** at Children's Hospital of the East Bay in Oakland. The laboratory is a memorial to a son of Mr. and Mrs. Harvey B. Lyon who was killed in World War II. It is expected to be completed by the end of this year at a cost of $262,000.

Funds for the building of the laboratory, over the $100,000 given by the Lyon family and the $75,000 by the National Institutes of Health, will be obtained from bequests left to Children's Hospital of the East Bay from specific grants or donations for research.

LOS ANGELES

As a memorial to the late **Dr. Ewing L. Turner,** a past president of the Los Angeles County Medical Association, the physicians' division of the American Bureau for Medical Aid for Free China will send a gift of vitally needed medical equipment to Formosa. Dr. Turner, who had served in the Far East during World War II, was a member of the executive board of the bureau that is making the gift.

* * *

An overflow crowd of Red Cross officials and Beverly Hills civic leaders attended a luncheon given in honor of **Dr. James C. Doyle,** Speaker of the California Medical Association House of Delegates, on the occasion of his retirement as chairman of the Beverly Hills Branch of the American National Red Cross early last month. Dr. Doyle was presented with a plaque in commemoration of his ten years of chairmanship.

MARIN

Dr. Martin H. Long of Mill Valley was awarded first prize in the exhibit of the American Physicians' Art Association which was held during the American Medical Association Convention in San Francisco. The prize was for his pastel study of the head of a Negro man.

SAN FRANCISCO

The California Academy of General Practice will present its Tenth Annual Scientific Assembly at the new Masonic Memorial Temple on Nob Hill in San Francisco, October 5 to 8, 1958. The meeting is expected to attract some 2,500 family doctors and their wives from the Western states.

The entire emphasis will be on presenting useful, practical material that can be put into immediate use in the doctor's everyday practice, the announcement of the meeting said. Among topics to be discussed will be neglected feet in children, teenage sex education, reactions to antibiotics, obstetrical problems, inguinal hernia repair, psychotherapy, otitis, general principles in skin diagnosis, small bone fractures, back manipulations, common sense fluid balance, use of diuretics, pruritis ani, the acute abdomen in the aged, diabetes, angina and a pediatric panel on routine care, emergencies and fever of unknown origin.

Out-of-state physicians chosen to appear at the assembly are Robert N. Rutherford, Seattle; Ethan A. Brown, Boston; C. H. Hardin Branch, Salt Lake City; William H. Gordon, Lubbock, Texas; Philip Thorek, Chicago; and Ralph C. Benson, Portland.

* * *

Dr. Seymour M. Farber of San Francisco was elected president-elect of the American College of Chest Physicians at its meeting in San Francisco in June.

* * *

Dr. Edward B. Shaw, San Francisco, has been appointed professor of pediatrics and chairman of that department in the University of California School of Medicine.

Dr. Shaw, who has been a volunteer member of the school's part-time clinical faculty since 1921, now is leaving private practice to devote full time to his new job. He succeeds Dr. William C. Deamer as chairman of the department. Dr. Deamer intends to devote more time to research and training.

SONOMA

Announcement of a grant of $4,800 by Wyeth Laboratories to **Dr. John L. Karlsson** of Santa Rosa for a two-year residency in pediatrics at Children's Hospital, San Francisco, was made recently by Dr. Crawford Bost, who is a member of the Wyeth Fellowship committee.

TULARE

Dr. Hugh M. Baca of Visalia was reelected president of the Tulare County Heart Association at the annual meeting of the organization in June, and **Dr. Arthur Carleton** of Lindsay was elected vice-president.

GENERAL

Problems created by the nuclear age and the latest developments in the surgical specialties will be emphasized at the **western regional congress** of the United States section, **International College of Surgeons,** to be held at the Riverside Hotel, Reno, August 21 to 23. The meeting will be open to all physicians, whether or not members of the International College of Surgeons.

The opening day will feature a panel covering the surgical problems encountered in general practice. The moderator will be Dr. Ross T. McIntire, Chicago.

Additional information may be obtained from Dr. Fred M. Anderson, 275 Hill Street, Reno, general chairman of the meeting.

* * *

Among 81 grants totalling $1,098,680 awarded by the Life Insurance Medical Research Fund in support of **heart research** during the coming year, three for a total of $59,950 will go to aid research in three California medical schools: Stanford University School of Medicine, San Francisco, $26,400 for research by **Dr. Victor Richards** on circulatory dynamics with reference to surgical treatment; University of California School of Medicine, Los Angeles, $17,050, for research by **Dr. W. F. H. M. Mommaerts** on the molecular structure of muscular tissues; and University of Southern California School of Medicine, Los Angeles, $16,500 for research by **Dr. John L. Webb** on cardiac cell membrane potentials in relation to contractility of the heart muscle.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Internal Medicine (at University of California Residential Conference Center, Lake Arrowhead), Wednesday through Saturday, August 20 to 23. Sixteen hours. Fee $150.00 (including room and meals).

Anesthesiology. Wednesday through Friday, August 27 through August 29. Sixteen hours. Fee: $50.00.

Workshop for Food Service Workers I. Monday and Tuesday, September 15 and 16. Twelve hours. Fee: $15.00 includes luncheons.

Calculations in Clinical Chemistry. Wednesdays, September 17 through October 22. Twelve hours. Fee: $25.00.

Medical Terminology. Thursday nights, beginning September 18. Forty-five hours. Fee: $30.00.

Teaching Clinics. Thursdays, September 18 to December 11. Twenty-four hours.*

St. Joseph Hospital, Burbank, Postgraduate Medical Lecture Series. Tuesdays, September 23 to December 9. Twenty-four hours. Fee: $50.00.

Practical Clinical Chemistry for Laboratory Technologists. Begins in October. Twenty-four hours.*

Aviation Medicine. Wednesday, Thursday and Friday, October 22, 23 and 24. Nineteen hours.*

Removal of Foreign Bodies from Lung and Bronchi. Saturday and Sunday, November 8 and 9. Nine hours. Fee: $110.00.

Minor Surgery. Friday and Saturday, November 14 and 15. Twelve hours.*

Obstetrics and Gynecology. Friday and Saturday, November 21 and 22.†

Fractures. Friday and Saturday, December 5 and 6.†

Vascular Surgery. Friday and Saturday, December 12 and 13.†

Athletic Injuries. Friday and Saturday, December 19 and 20.†

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Internal Medicine. Saturday through Wednesday, September 13 through September 17. Thirty-five hours.*

Medical Evening Series (East Oakland Hospital). Tuesdays, September 16 through December 9. Twenty-four hours. Fee: $50.00.

Obstetrics and Gynecology. Thursday through Saturday, September 18 through September 20. Twenty-one hours. Fee: $50.00.

Congenital Abnormalities. (Saturday morning sessions) October 4 through November 8. Fifteen hours.*

Psychiatric Orientation for General Practice (Herrick Hospital, Berkeley). Sunday through Tuesday, October 26 through October 28. Twenty-one hours. Fee: $50.00.

Arthritis and Rheumatoid Diseases. Monday through Wednesday, November 3 through November 5. Twenty-one hours.*

Urology. Friday, November 7. Seven hours. Fee: $20.00.

Proctology. Saturday, November 8. Seven hours. Fee: $20.00.

Heart Symposium (Santa Rosa). Wednesday, November 12. Seven hours. Fee: $15.00.

Plastic Surgery. Thursday, November 13. Seven hours. Fee: $20.00.

Hand Surgery. Friday, November 14. Seven hours. Fee: $20.00.

New Look in Speech Problems. Saturday, November 15. Seven hours. Fee: $12.50.

Ophthalmology — External Diseases. Wednesday through Saturday, December 3 through December 6. Twenty-eight hours.*

Postgraduate Clinics in Dermatology. Friday and Saturday, January 16 and 17. Fourteen hours. Fee: $40.00.

Course for Physicians in General Practice. Monday through Friday, April 6 through April 10. Thirty-five hours. Fee: $75.00.

Fundamental Principles of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: $350.00.

Contact: Seymour M. Farber, M.D., Head, Postgraduate Instruction, Office of Medical Extension, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, Room 515. *Contact:* D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

Division of Ophthalmology will present a course in Strabismus, consisting of lectures, demonstrations and seminars. Enrollment limited. August 27 through August 30.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m., USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians $30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year Postgraduate Series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: $100.00.

*Fees to be announced.
†Fees and hours to be announced.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: $85.00. Physicians may register at any time.

Intensive Review of Internal Medicine. September 22 through October 3. Course designed for the Internist. Emphasis placed on review of important fundamentals as well as recent advances in field of internal medicine. Program is scheduled just prior to Part I of American Board of Internal Medicine examination. Tuition: $65.00.

Bedside Clinics and Set Clinics in Internal Medicine. October 2 through January 15, 1959. Small groups will study and examine interesting patients at bedside. Discussion of physical findings as well as diagnostic and therapeutic measures, ECG and x-rays will be conducted by instructor. Tuition: $65.00. Los Angeles County Hospital.

Therapeutic Interviewing of Patients with Emotional Problems. October 15 through January 8, 1959. Course designed for practicing physician. After general orientation, meetings will be based upon tape recordings of interviews with patients made by participating physicians. Tuition: $100.00. Los Angeles County Hospital, Psychiatric Unit.

Homecoming Course. October 16 and 17. Two-day refresher course to cover advances in diagnosis and treatment developed in last five years. Tuition: Alumni, $25.00; Non-alumni, $50.00.

Symposium on Sexual Problems as Seen in General Practice. November 7. Tuition: $25.00. Hotel Statler, Los Angeles.

Contact: **Phil R. Manning, M.D., Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.**

COLLEGE OF MEDICAL EVANGELISTS

Audio-Visual Postgraduate Refresher Courses. Courses are made up of four or more half-hour lectures each, recorded on hi-fi magnetic tape and illustrated by 35-mm. filmstrips or slides in full color, and adapted for use on any standard tape recorder and filmstrip or slide projector, automatic or manual.

Contact: **Paul D. Foster, M.D., chairman, Committee on Audio-Visual Courses, College of Medical Evangelists School of Medicine, 316 North Bailey St., Los Angeles 33.**

GENERAL SURGERY AND SURGICAL SPECIALTIES. Full-Time Basic Science Course. Accredited by the American Board of Surgery.

Begins September 8. Surgical Anatomy (72 periods, 324 hours). Dissection, Lectures and Demonstrations. September 8, 1958 through June 3, 1959. Tuition: $250.00. Upper and Lower Extremities (31 periods, 140 hours), September 8, 1958 through January 5, 1959. Tuition: $125.00. Thorax, Abdomen and Pelvis (27 periods, 121 hours), January 7 through April 15, 1959. Tuition: $125.00. Head and Neck (14 periods, 63 hours), April 22 through June 3, 1959. Tuition: $75.00.

Begins September 10. Surgical Anatomy (41 periods, 82 hours). Lectures and Demonstrations. September 10, 1958 through June 3, 1959. Tuition: $100.00. Upper and Lower Extremities (15 periods, 30 hours), September 10 through December 17, 1958. Tuition: $50.00. Thorax, Abdomen and Pelvis (14 periods, 28 hours), January 7 through April 15, 1959. Tuition: $50.00. Head and Neck (12 periods, 24 hours), April 22 through June 3, 1959. Tuition: $35.00.

Begins September 9. Surgical Pathology (36 periods, 108 hours), September 9, 1958 through June 2, 1959. Tuition: $100.00.

Each Six Months. Anesthesiology (6 months, full-time). Vacancy occurs each six months. Limited to 2 students. Tuition: $350.00.

For information contact: Chairman: Committee on Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE COURSES

POSTGRADUATE CIRCUIT COURSES

SACRAMENTO VALLEY CIRCUIT for Dunsmuir, Chico, Marysville and Auburn, in cooperation with Stanford University School of Medicine begins week of October 13, 1958.

NORTH COAST CIRCUIT for Eureka, Ukiah and Napa, in cooperation with University of California, San Francisco, begins week of October 13, 1958.

WEST COAST CIRCUIT in cooperation with College of Medical Evangelists. San Luis Obispo and Santa Maria, November 12; Ojai, November 13.

POSTGRADUATE INSTITUTES—1959

SAN JOAQUIN VALLEY COUNTIES in cooperation with College of Medical Evangelists, March 19 and 20, Hotel Californian, Fresno. (Local chairman not yet appointed.)

SOUTHERN COUNTIES in cooperation with University of California, San Francisco, April 23 and 24, Disneyland. Chairman: E. F. Cain, M.D., 200 N. Palm, Anaheim.

WEST COAST COUNTIES in cooperation with Stanford University School of Medicine, May 14 and 15, La Playa Hotel, Carmel. Chairman: Chester G. Moore, Jr., M.D., 440 E. Romie Lane, Salinas.

NORTH COAST COUNTIES in cooperation with UCLA School of Medicine, June 5 and 6, Hoberg's Ranch, Lake County. Chairman: Lee Zieber, M.D., 1177 Montgomery Dr., Santa Rosa.

SACRAMENTO VALLEY COUNTIES in cooperation with University of Southern California School of Medicine, June 25, 26 and 27, Tahoe Tavern, Lake Tahoe. Chairman: Robert H. Quillinan, M.D., 616 Alhambra Blvd., Sacramento.

Contact: One of the chairmen listed above, or Postgraduate Activities Office, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

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AUDIO DIGEST FOUNDATION, a nonprofit subsidiary of the C.M.A., now offers (on a subscription basis) a series of hour-long tape recordings designed to keep the physician abreast of current happenings in his particular field. Composed of practice-useful abstracts from 600 leading journals, with short lectures and editorial comments from prominent physicians, Audio Digest offers programs covering general practice, surgery, internal medicine, obstetrics and gynecology, and pediatrics.

AUDIO-DIGEST plans to begin a new series of programs covering the specialty of Anesthesiology. The first of these will be issued on November 1, 1958. Those wishing to be charter subscribers to this tape-recorded review of what is new and important in the field of Anesthesiology should write to Mr. Claron L. Oakley, Editor, 1919 Wilshire Boulevard, Los Angeles 57, HUbbard 3-3451, for order form and further information.

Contact: Claron L. Oakley, editor, 1919 Wilshire Blvd., Los Angeles 57.

Medical Dates Bulletin

AUGUST MEETING

WESTERN REGIONAL MEETING, INTERNATIONAL COLLEGE OF SURGEONS, Riverside Hotel, Reno, Nevada, August 21 to 23. *Contact:* Leo D. Nannini, M.D., 190 Mill Street, Reno, Nevada. For reservations, write Riverside Hotel, Reno, Nevada.

SEPTEMBER MEETINGS

OREGON STATE MEDICAL SOCIETY 84th Annual Session, September 3 to 5, Masonic Temple, Portland. *Contact:* Roscoe K. Miller, executive secretary, 1115 S. W. Taylor St., Portland 5, Oregon.

SAINT JOHN'S HOSPITAL POSTGRADUATE ASSEMBLY, September 11 through September 14, Saint John's Hospital, Santa Monica. *Contact:* John C. Eagan, M.D., director, Postgraduate Assembly, 22nd St. at Santa Monica Blvd., Santa Monica.

STOCKTON POSTGRADUATE STUDY CLUB 20th Annual Fall Series, September 11 to November 13, 8 p.m., College of Pacific Campus, Stockton. *Contact:* John F. Blinn, Jr., M.D., chairman, 936 N. Commerce St., Stockton.

WASHINGTON STATE MEDICAL ASSOCIATION Annual Convention, September 14 to 17, 1958, Spokane, Washington. *Contact:* Ralph W. Neill, executive secretary, 1309 Seventh Ave., Seattle, Wash.

SOUTHWESTERN PEDIATRIC SOCIETY, Dinner Meetings, September 17, November 19 and January 14, University Club, 6:30 p.m., Los Angeles. *Contact:* Robert Shirley, M.D., secretary-treasurer, 11633 San Vicente Blvd., Los Angeles 49.

TWELFTH ANNUAL POSTGRADUATE ASSEMBLY, September 17 and 18, San Diego County General Hospital, San Diego. *Contact:* William T. Nute, executive secretary, San Diego County Medical Society, 3427 Fourth Avenue, San Diego 3.

NEVADA STATE MEDICAL ASSOCIATION Annual Meeting, September 17 through 20, Elko, Nevada. *Contact:* Nelson B. Neff, executive secretary, P. O. Box 188, Reno.

PACIFIC DERMATOLOGIC ASSOCIATION Tenth Annual Meeting, September 18 through 20, Hotel del Coronado, Coronado, Calif. *Contact:* Louis H. Winer, M.D., secretary-treasurer, 9915 Santa Monica Blvd., Beverly Hills, Calif.

COLORADO STATE MEDICAL SOCIETY Annual Session, September 24 through 27, Broadmoor Hotel, Colorado Springs. *Contact:* Harvey T. Sethman, executive secretary, 835 Republic Bldg., Denver 2.

OCTOBER MEETINGS

CALIFORNIA DIVISION OF THE AMERICAN CANCER SOCIETY Annual Meeting, October 1 to 4, Fairmont Hotel, San Francisco. On Wednesday, October 1, afternoon and evening, will be a cancer conference held for entire medical profession. *Contact:* Walter E. Batchelder, M.D., medical director, C.M.A. Cancer Commission, 450 Sutter St., San Francisco 8.

1958 WESTERN INDUSTRIAL HEALTH CONFERENCE sponsored by the Western Industrial Medical Association, October 3 to 5, Claremont Hotel, Berkeley. *Contact:* John E. Kirkpatrick, M.D., 516 Sutter St., San Francisco 2; or A. C. Remington, M.D., 9851 Sepulveda Blvd., Los Angeles 45.

CALIFORNIA ACADEMY OF GENERAL PRACTICE Tenth Annual Scientific Assembly, October 5 to 8, Masonic Temple, San Francisco. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco 5.

KAISER FOUNDATION HOSPITALS OF NORTHERN CALIFORNIA Symposium on Viruses and Viral Disease, October 10 and 11, Hotel Fairmont, Gold Room, San Francisco. All physicians and medical students are invited, without fee. *Contact:* Martin A. Shearn, M.D., director of education, Kaiser Foundation Hospital, 280 W. MacArthur Blvd., Oakland, Calif.

FIFTH ANNUAL FORT MILEY SURGICAL CLINICS AND SYMPOSIA sponsored by the San Francisco Academy of General Practice in cooperation with Faculties of Stanford University School of Medicine and University of California School of Medicine at Fort Miley Veterans Administration Hospital, 42nd Avenue and Clement Street, San Francisco, will start on October 14, 1958 at 8 p.m. and each Tuesday thereafter ending November 18, 1958. *Contact:* Alexander F. Fraser, M.D., 3490 20th Street, San Francisco.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting, October 17 to 19, Ahwahnee Hotel, Yosemite. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Dr. Clyde C. Greene, secretary-treasurer, 350 Post St., San Francisco 8.

AMERICAN HEART ASSOCIATION Scientific Sessions and Meetings, October 24 to 28, Fairmont Hotel and Civic Auditorium, San Francisco. *Contact:* J. Keith Thwaites, executive director, California Heart Association, 1428 Bush Street, San Francisco 9.

LOS ANGELES COUNTY HEART ASSOCIATION 28th Annual Professional Symposium, October 29 and 30, Wilshire Ebell Theater. *Contact:* Los Angeles County Heart Association, 660 S. Western Ave., Los Angeles 5, DUnkirk 5-4231.

HAWAII HEART ASSOCIATION, INC. Special Cardiological Sessions, October 30 through November 1, Princess Kaiulani Hotel, Honolulu. *Contact:* Alfred S. Hartwell, M.D., c/o Hawaii Heart Association, 1018 Lunalilo St., Honolulu.

SAN DIEGO COUNTY HEART ASSOCIATION 8th Annual Symposium on Heart Diseases, all day, October 31, U. S. Naval Hospital Auditorium, San Diego. *Contact:* O. M. Avison, executive director, San Diego County Heart Association, 1651 Fourth Ave., San Diego, BElmont 4-5101.

THE PHYSICIAN'S *Bookshelf*

PSYCHOPATHOLOGY OF COMMUNICATION—Edited by Paul H. Hoch, M.D., and Joseph Zubin, Ph.D., New York State Psychiatric Institute; Columbia University. Proceedings of the 46th annual meeting of the American Psychopathological Association, New York City, June, 1956. Grune and Stratton, New York, 1958. 305 pages, $6.75.

This book, formed from the collection of papers given at the 46th meeting of the American Psychopathological Association, has as its laudable purpose the focusing of attention upon the hitherto neglected field of communication considered as both a means of interpersonal relationship and as an adaptive mechanism. Particular attention is paid to the communication which takes place in the interview situation and also to the changes in the communicative process evinced in a variety of pathological processes.

In the opinion of the reviewer, this desirable objective was not fulfilled by this book. The volume gives the impression of a tatterdemalion hodgepodge and it is difficult to see why some of the contributions have been included or what direct relevance they have to the phenomenon of communication pathology. Moreover, it was particularly disappointing to see that none of the selections explored the phenomenon of paleologic irrationality as it is manifested in interpersonal communication and the sizable role which it plays in verbal and non-verbal interaction.

Moreover, the book shows the all too common defect of compilations from a set of papers given at a meeting. It lacks cohesiveness, integration, and complete coverage of the field, and in the opinion of the reviewer is a book recommended for perusal but not for purchase.

CHARLES W. WAHL, M.D.

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THE EXTENT OF CANCER ILLNESS IN THE UNITED STATES—By the Biometry Branch of the National Cancer Institute, Dr. Michael B. Shimkin, Chief of the Branch. Public Health Service Publication No. 547. For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. 23 pages, 25c.

Cancer is a disease found in all races and ages of man, and apparently all animal species. There are, however, marked differences in the occurrence of cancer by type and by site, from species to species, and in different countries. The distribution of the specific forms of cancer appears to be influenced by a variety of factors, including age, sex, race, familial history and exposure to potential carcinogens. The long intervals between exposure to such agents and the development of disease may conceal the nature of causal relationships.

This small monograph attempts to answer 31 questions pertaining to the extent of cancer illness in the United States by means of brief text, charts and tables. The data comes from mortality statistics of the National Office of Vital Statistics, morbidity surveys conducted by the National Cancer Institute, and data accumulated by the Connecticut State Cancer Registry. Dr. John R. Heller, Director of the National Cancer Institute, reminds us in the foreword that mortality data are not precise, and that there is not complete agreement amongst pathologists as to the nature of many borderline neoplastic conditions. However, despite these limitations, a reasonably reliable estimate of the extent of cancer illness and trends therein can be made from the data at hand.

To eliminate the effect of differences in age of the population, many of the tables and charts have been adjusted, taking the 1950 census population of the United States as standard.

Since 1937, cancer has been the second leading cause of death in the United States, and the death rate is apparently increasing slightly. The probability of a person in the U. S. developing cancer is roughly 1 in 4, and of dying of cancer roughly 1 in 8. The digestive system accounts for the greatest proportion of cancer deaths in each sex, being followed by the respiratory tract and genital organs in males, and the genital organs and breasts in females.

There are a series of charts and curves showing the survival of cancer patients according to site and sex. There is brief reference to survival data and cure data following surgical treatment, radiological treatment, and a combination of these two curative methods. The author wisely points out that comparison of surgical and radiological data in the tables is not valid since the surgical group includes a much lower proportion of poor risk patients.

Improvements in survival rates have been noted for several primary sites, including cervix and corpus uteri, colon and rectum. However, survival prospects for many other sites such as stomach, lung and breast have remained virtually unchanged.

The vast amount of data compressed in these tables should be of value to physicians, cancer educators, and persons concerned with the impact of cancer on large population groups.

L. H. GARLAND, M.B.

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A MANUAL OF ELECTROTHERAPY—Arthur L. Watkins, M.D., Assistant Clinical Professor of Medicine, Harvard Medical School. Lea & Febiger, Philadelphia, 1958. 259 pages, $5.00.

This is a new book, a first edition, by the present author. However, it is based, both in text and in illustrations, on a previous book of the late Dr. Richard Kovacs, which was entitled "A Manual of Physical Therapy."

The present author has confined the voluminous aspects of physical therapy to the facet of electrotherapy. This would include the subjects of heat, light, and electricity for certain muscle testing, electrical stimulation, ion transfer, etc. It is an excellent basic test for students of physical therapy and would be useful to physicians who are interested in a reference text in this field. The material covers both the physics, the physiological effects, safety rules, and actual methods of use. Clinical conditions are not discussed in this book.

S. MALVERN DORINSON, M.D.